NORTH CAROLINA Medical Journal

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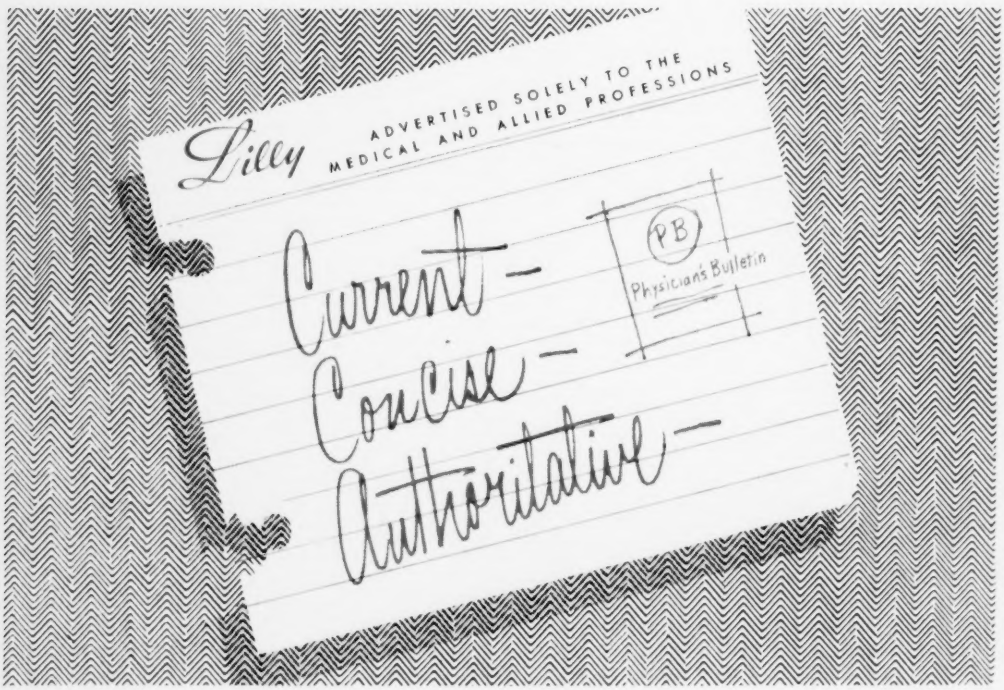

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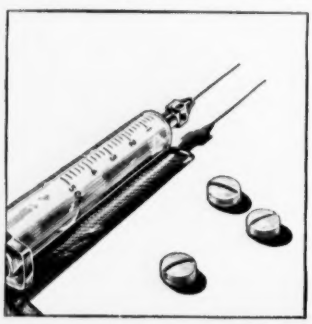

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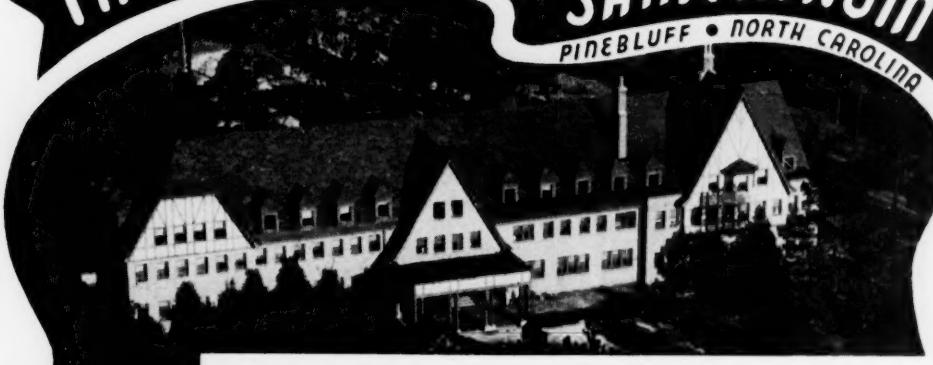

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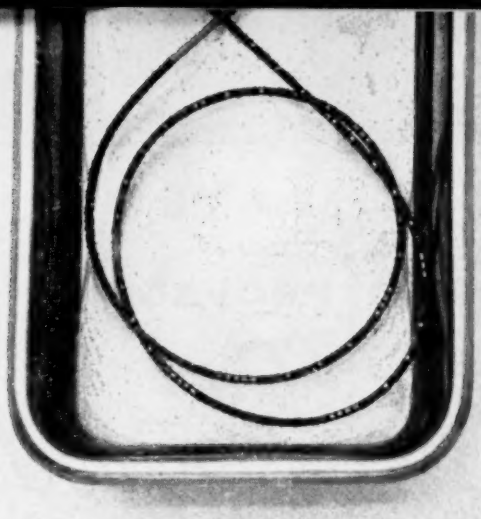

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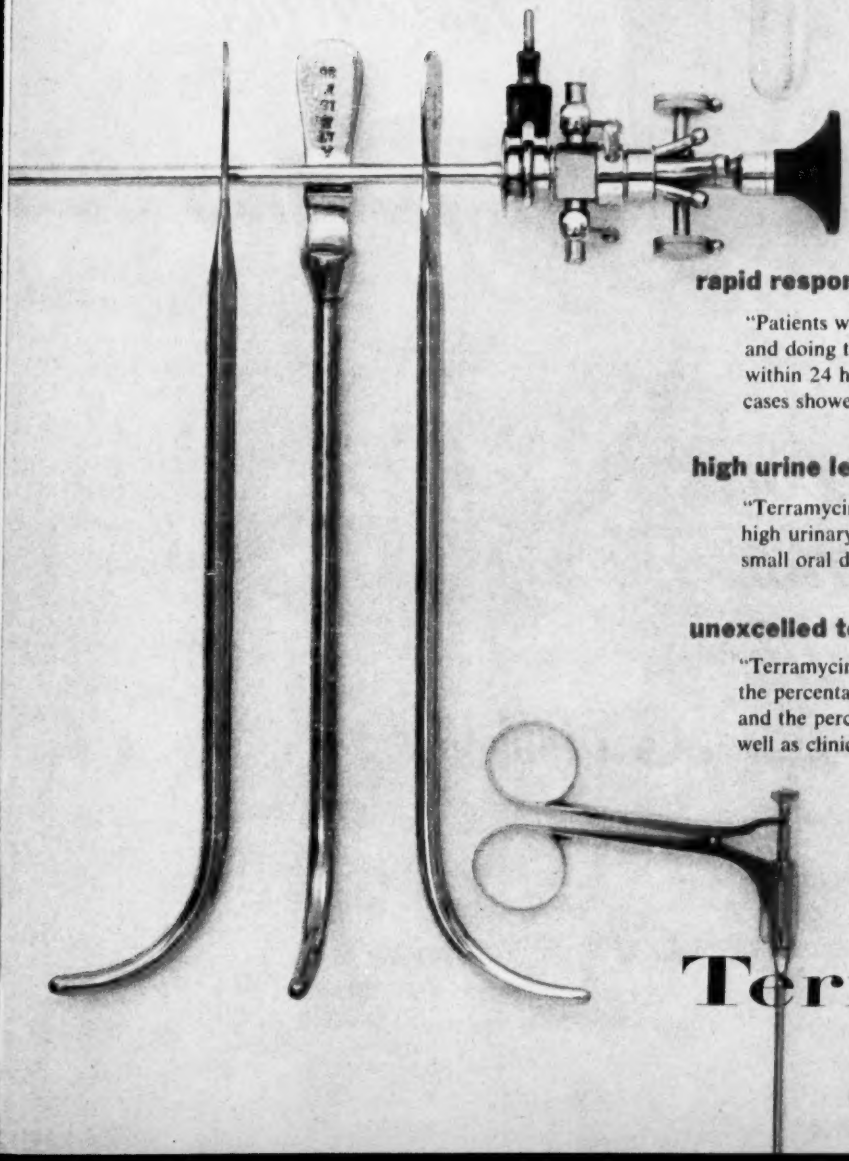

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2. J. Urol. 67:762 (May) 1952.
3. Ibid. 69:315 (Feb.) 1953.

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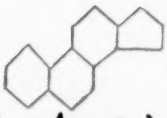
the symbol SCHERING denotes leadership in steroid hormone  research and manufacture -- including Cortogen in the most useful clinical forms. For systemic therapy, use Cortogen tablets SCHERING or injection . For eye disorders use Cortogen ophthalmic suspension -- sterile . The Schering seal SCHERING appears on each tablet and package -- your assurance of quality.

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4. External carotid artery & posterior facial vein
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6. External jugular vein
7. Accessory nerve & internal carotid artery
8. Platysma muscle
9. Fourth cervical nerve
10. Superior position of sternocleidomastoid muscle
11. Deep cervical lymph nodes
12. Fifth cervical nerve
13. Posterior supraclavicular nerve & anterior jugular vein
14. Superficial cervical artery & vein
15. Middle supraclavicular nerve & subclavian artery
16. Transverse scapular artery & vein
17. Inferior position of sternocleidomastoid muscle
18. External maxillary artery & anterior facial vein
19. Submaxillary lymph nodes & digastric muscle
20. Submaxillary gland & mylohyoid muscle
21. Submental lymph nodes & hypoglossal nerve
22. Superior laryngeal artery & nerve
23. Superior cervical ganglion
24. Superior laryngeal vein & omohyoid muscle
25. Superior thyroid artery & vein
26. Ansa hypoglossi
27. Common carotid artery & sternothyroid muscle
28. Middle cervical ganglion & phrenic nerve
29. Vagus nerve
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31. Internal jugular vein
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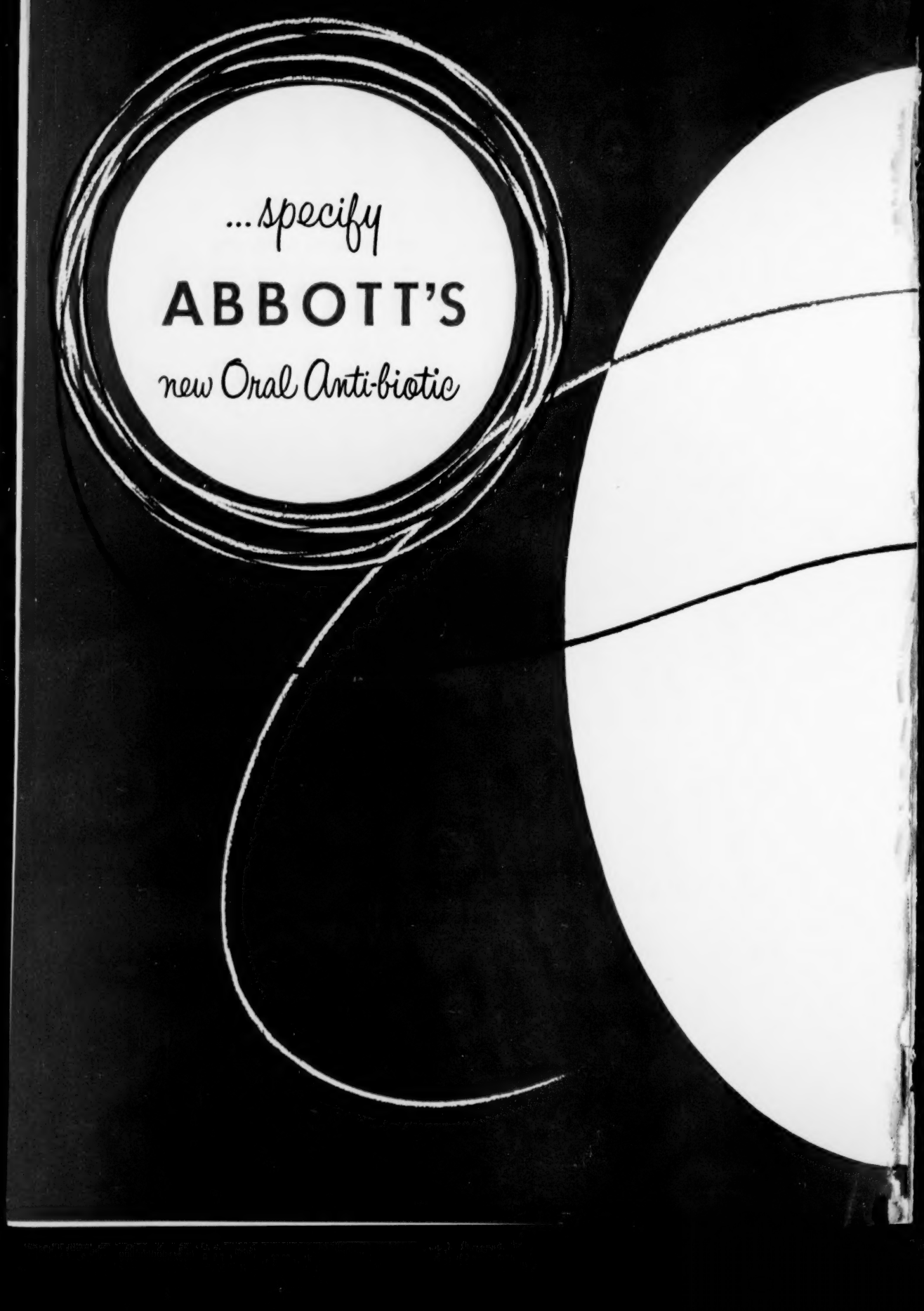
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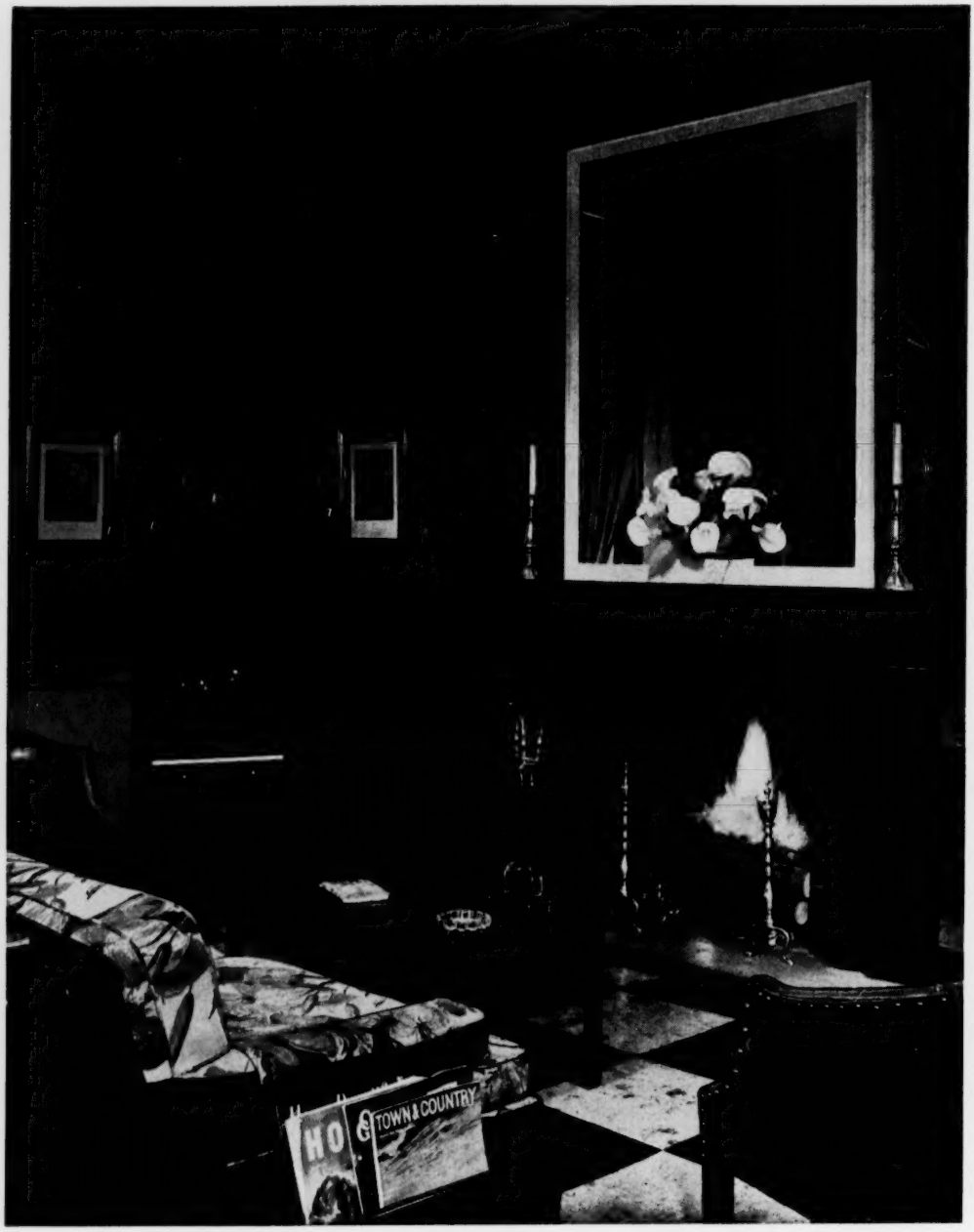
1. McGuire et al. (1952), J. Antibiotics & Chemo., 2:281, June.
2. Heilman et al. (1952), Proc. Staff Meet. Mayo Clin., 27:385, July 16.
3. Haight and Finland (1952), New Eng. J. Med., 247:227, Aug. 14.



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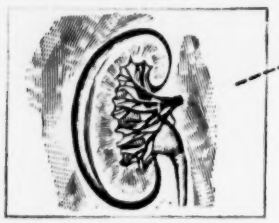

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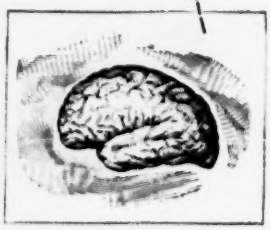

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1. Van Alyea, O. E., and Donnelly, Allen: *Arch. Otolaryng.*, 49:234, Feb., 1949.

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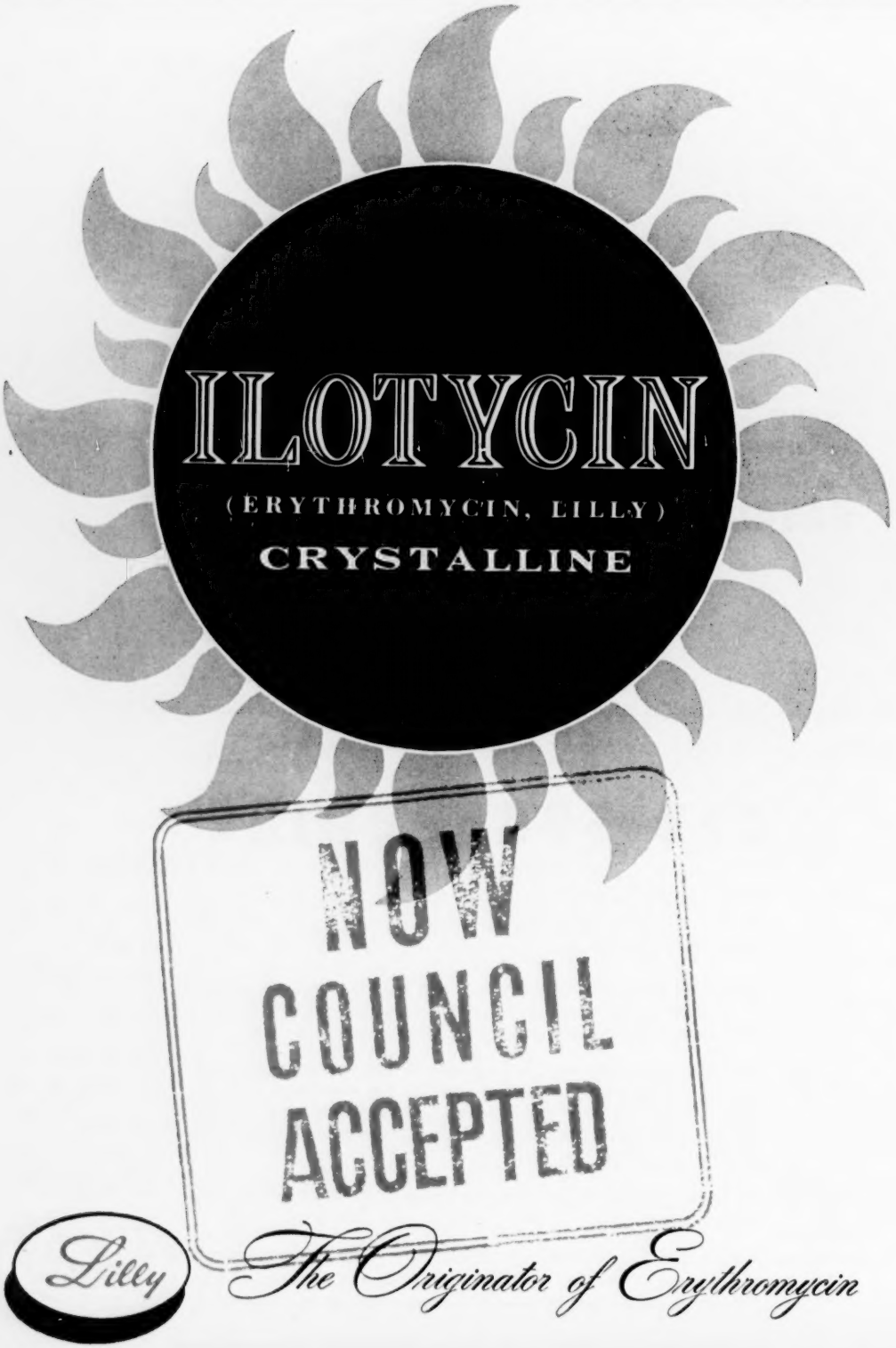
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DRUG THERAPY IN TUBERCULOSIS

JOSEPH S. HIATT, JR., M.D.

McCAIN

The discovery and clinical application of anti-tuberculous drugs has made a tremendous impact on the therapy of tuberculosis. In daily use in our armamentarium are streptomycin and dihydrostreptomycin, para-aminosalicylic acid (PAS), and isonicotinic acid hydrazide (INAH) and its derivatives. As further statistical evidence becomes available, data to indicate the most effective drug combinations to use under appropriate circumstances will undoubtedly emerge. The detailed studies in the treatment of tuberculosis by drugs carried on by the Veterans Administration represent one of the outstanding combined research efforts in medical history, and certainly a great amount of objective data has been derived from the composite results, standardizing therapeutic regimens and dosage.

Formerly, every effort was made to select only those cases in which streptomycin was thought to be indicated, and detailed laboratory studies were done when this drug was first used. Since then the pendulum has swung to the opposite extreme, so that it is now difficult to cite an instance in which a person with an active tuberculous infection should not receive drug therapy. Cautiously we have advanced to the point where we can state categorically: Drug therapy as well as bed rest is basic treatment for tuberculosis. Other forms of therapy may be added or dropped as indicated, but these two must always be used. Over a period of time enough evidence has accumulated to indicate that very little laboratory study is needed in long-term therapy when the initial urinary and blood findings are negative and frequent clinical evaluations are made.

From the North Carolina Sanatorium, McCain, North Carolina.

The nature of tuberculosis — primarily, the fact that it is a chronic disease characterized by necrosis, caseation, and cavity formation—gives the proper perspective for evaluating drug action. We are dealing at this time with drugs that are primarily bacteriostatic, not bactericidal, although some question regarding INAH exists. If a bactericidal drug is discovered, it is conceivable that even a persistent cavity may actually be sterilized or freed of tubercle bacilli.

Prolonging the Effectiveness of Drug Therapy

The development of resistance by the tubercle bacillus presents a serious problem in the present-day management and treatment of tuberculosis, since prolonged drug effectiveness is essential to best results. Surgical intervention for tuberculosis is done, if possible, while the infecting organisms are drug-sensitive, and the evolution of drug therapy reflects efforts directed toward finding an optimum time for operation. Maintaining drug effectiveness over a long period is equally important in obtaining satisfactory results from nonsurgical treatment. Accordingly, a great deal of attention has been paid to techniques that will prolong the usefulness of these drugs.

It is now generally agreed that the semiweekly administration of streptomycin in conjunction with PAS is just as effective as the daily administration of streptomycin alone. Under this regimen PAS is given daily and streptomycin every third day, or twice weekly. With the introduction of INAH, other combinations came into use. Any two (or in some instances all three) of the available drugs are administered concurrently, in the knowledge that combined therapy delays the time when the infecting bacilli be-

come resistant, thus prolonging the period of therapeutic effectiveness. It is highly desirable to continue drug therapy uninterruptedly and, in most instances, to project it as a long-term affair.

To summarize two mapor principles in the chemotherapy of tuberculosis:

1. Use combinations of drugs (streptomycin-PAS, INAH-streptomycin, PAS-INAH).
2. Administer drugs without interruption.

Streptomycin vs. Dihydostreptomycin

Although less pressing now that the drugs are administered twice weekly rather than daily, the question as to whether to use streptomycin or dihydrostreptomycin arises. It is known that prolonged treatment with dihydrostreptomycin entails some risk of damage to the acoustic division of the eighth nerve, while with streptomycin the chance of damage to the vestibular portion of the eighth nerve exists. Even though dihydrostreptomycin is discontinued upon the first evidence of deafness, deafness may continue to progress; whereas lost vestibular function in most individuals may be accommodated, and is therefore less serious.

There is some evidence that streptomycin is more effective than dihydrostreptomycin. Both drugs are nephrotoxins. Either may cause various types of allergic dermatitis, varying from mild urticaria to a severe exfoliative dermatitis. At present most of us prefer streptomycin for general use. In combined therapy the average dose is 1 Gm. of streptomycin every third day or twice weekly.

Para-Aminosalicylic Acid

PAS, if given in liquid form, must be freshly made and kept refrigerated. The sodium salt is most widely used because of its solubility and simplicity of preparation. An effervescent tablet is also available, and sugar-coated granules are well tolerated when other forms fail. These three prepartions apparently give the most satisfactory blood levels, according to information now available.

The adult dose of PAS when given in combination therapy is 12 Gm. daily, given in divided doses of 4 Gm. after each meal. When the drug is given alone, the recommended dosage is 16 to 20 Gm. daily in divided doses. The effectiveness of PAS when used alone, though not as striking as that of streptomycin or INAH used singly, has been demonstrated. Resistance to it develops at an early date, however.

The toxic manifestations of PAS are chiefly gastrointestinal — namely, nausea, vomiting, and diarrhea. Drug fever and skin rash may also occur. Lowering the dosage, with a very gradual approach to the desired total amount, usually enables one to continue the drug.

Isonicotinic Acid Hydrazide

The introduction of isonicotinic acid hydrazide has further stimulated the search for the ideal drug in the treatment of tuberculous infections, and certainly to date the subjective improvement and clinical results with INAH outweigh those of any other drug used singly. The suggested dosage is as follows:

For patients weighing up to 100 pounds:
Daily dosage: 100 mg., given in 50 mg. doses three times daily after meals.

For patients weighing from 100 to 135 pounds:
Daily dosage: 200 mg., given as follows:
50 mg. after breakfast
100 mg. after noon meal
50 mg. after evening meal

For patients weighing from 135 to 170 pounds:
Daily dosage: 250 mg., given as follows:
50 mg. after breakfast
100 mg. after noon meal
100 mg. after evening meal

For patients weighing more than 170 pounds:
Daily dosage: 300 mg., given in 100 mg. doses three times daily after meals.

There is evidence that a much higher dosage, probably up to 10 mg. per kilogram of body weight, may be safely tolerated and be more effective than the presently advised 4 or 5 mg. per kilogram of body weight.

Studies are in progress to determine the bacterial resistance and therapeutic effectiveness of INAH in combination with PAS and streptomycin. Suffice it to say that both of these two combinations, streptomycin-INAH and PAS-INAH, are effective and that either might well prove to be the most desirable combination.

The toxic effects of INAH have now been well cataloged. It should be re-emphasized that antihistaminic or adrenergic drugs should be given with great caution when INAH is being used. In preconvulsive states or in instances of known convulsive disor-

der, the use of INAH is contraindicated. Care must be taken in the use of preoperative drugs, particularly atropine, when a patient receiving INAH is to be given an anesthetic. Barbiturates should be given in a much smaller dose than when administered in the absence of INAH. The suggested antidote for severe central nervous system toxicity is a small dose of barbiturate or prostigmine. The ability of the INAH group for producing side effects such as nervousness, insomnia, euphoria, hyperreflexia, and vasomotor hypotension is well recognized.

INAH is available in tablet form, in liquid for intravenous or intrapleural injections, and as a syrup for children. The isopropyl derivative manufactured under the name of Marsilid (Hoffman-La Roche) is much more toxic than is isonicotinic acid hydrazide, and must be given with greater caution. However, its immediate therapeutic effect is much more striking. One of the unexplained situations thus far is that when resistance to INAH has developed, the (Marsilid) isopropyl derivative can be given with the effect of an entirely new drug. This is certainly not the case when dihydrostreptomycin and streptomycin are used interchangeably, since resistance to one drug confers resistance to the other. If the toxic effects of Marsilid can be lowered or if a smaller dose can prove effective, this drug should be of great help in instances where resistance to INAH has occurred.

The use of INAH in combination with PAS has made available a greatly simplified and economical form of therapy, since both of these drugs are given orally. In other words, a person awaiting sanatorium admission can receive adequate drug therapy at home without the necessity of injections.

Use in surgery

With long-term, uninterrupted combination drug therapy, bacterial resistance is held to a minimum and therapeutic effectiveness can be maintained over a period of time. Ultimate success will depend on whether cavity closure occurs during this period of effective drug administration. The question of surgery should be considered in each case. If an operation is indicated, when is the ideal time for performing it? With the introduction of drug therapy and the marked improvements in surgical techniques effected by the use of whole blood and its derivatives, there is now a tremendous swing to excision surgery. Surgery can be performed most safely when the sputum is negative.

Resection surgery—meaning removal of either a segment, lobe, or the entire lung, or the now very popular wedge-type resection — offers a non-deforming procedure which removes the necrotic focus or cavity-bearing area. This operation has been carried out in numerous instances with minimal complications. The resected specimens have yielded tubercle bacilli on smear, but these often resist all efforts at culture and fail to reproduce tuberculosis when inoculated into guinea pigs. Controversy now exists as to whether or not these tubercle bacilli are actually dead or in a state of low metabolic activity, not growing under ordinary culture techniques but in some instances reported three or four months beyond the usual time. An answer to this question would tell us whether INAH is actually bactericidal or merely bacteriostatic, and whether surgery is necessary.

Current Trends and Possibilities

A new approach in the treatment of tuberculosis has become available. The old saying of "once tuberculosis, alway tuberculosis" may have to yield to the present frontal attack directed at the removal of any lesion or lesions harboring caseation and remaining as a threat in reactivation of disease. In the North Carolina Sanatorium at this time pneumothorax is being used in only 1 case, and within the past four months pneumoperitoneum has been induced in less than 6 cases. From January through June, 1952, 18 patients underwent thoracoplasty and 12 had resections. From July through December, 1952, 2 patients had thoroplasty and 30 underwent resections. Sufficient data are already available, though covering only a relatively short period of observation, to indicate that the trial phase of wedge resection (this in an effort to remove necrotic foci to prevent recurrences) has been passed. There are also available considerable data indicating the superiority of resection to thoracoplasty, though the latter is still the precedure of choice in certain instances.

The question as to how long drugs should be given preoperatively has been raised. The average period is from six to eight months; but each case must be studied individually, and in many instances surgery is justifiably withheld, while in others the operation is done much sooner.

There is no evidence at this time to indicate that drugs have supplanted bedrest; and, though one may keep an open mind, it would appear that until such evidence is produced, bedrest had best be retained as a basic principle of treatment, with drugs as an adjunct. In many patients, bedrest and drug therapy may eradicate all roentgen evidence of pulmonary tuberculosis, and thus obviate the necessity of surgery.

Over the horizon there is undoubtedly a cure for tuberculosis. Whether it will be a combination of drugs and surgery, or whether a drug which will destroy the tubercle bacillus will be produced remains to be seen.

A PHARMACOLOGIC APPROACH TO OBSTETRIC ANESTHESIA AND ANALGESIA

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During the Dark Ages and the Renaissance man was limited by superstition and his limited knowledge of pharmacology in the amount of relief which he could provide to parturient women. When Sir James Simpson used ether and chloroform for deliveries in 1847[1], the first of the pharmacologic barriers was hurdled. But superstition prevailed until the latter part of the nineteenth century, during which time the Scottish Calvinists were particularly bitter in their opposition to relief of obstetric pain. They scathingly ridiculed Simpson: "To all seeming, Satan wishes to help suffering women, but the upshot will be the collapse of society, for the fear of the Lord which depends upon the petitions of the afflicted will be destroyed. For tens of thousands of years births have taken place without any means of allaying pain. Has not Nature disclosed the wisdom of God in her conduct of the process of birth?"[2]

Despite criticism, medical progress continued; and von Steinbuchal made the next step in 1903 when he introduced twilight sleep for the first and second stages of labor[3]. However, it was soon apparent that morphine delayed fetal respirations and should be either abandoned or used with extreme caution as an obstetric analgesic[4].

Table 1
The Role of Analgesics and Anesthetics in the Production of Asphyxia Neonatorum
(Little-Tovell)[5]

Anesthetic or Analgesic Agent	*Patients in Series*	*Fetal Mortality Uncorrected %*	*Respiration Delayed %*	*Resuscitation Required %*
Morphine and derivatives	2,195	3.1	21.8	10.7
Barbiturates	6,099	1.5	22.9	7.6
Demerol	2,649	2.8	11.9	6.1
Spinal	1,951	2.1		1.2
Caudal	15,167	1.5		0.8

The emphasis then changed from morphine to the barbiturates. These drugs at first enjoyed international popularity, but it was soon evident that the derivatives of barbituric acid caused excessive maternal excitement and delayed fetal respiration in over 20 per cent of the cases[5]. The failure of the barbiturates to provide complete satisfaction to obstetricians made fertile ground for the introduction of morphine substitutes[6]. Since 1943 Demerol has enjoyed wide obstetric use and is today probably the most popular of the systemic analgesics, despite the fact that it delays respirations in more than 10 per cent of infants[5].

Table 1[5] shows the roles of various analgesics and anesthetics in causing delayed fetal respiration. Although there has been a constant reduction in the percentage of infants requiring resuscitation as new drugs and techniques have been developed, there is still an impetus to perfect obstetric pain relief. Present effort is along three approaches: anatomic, psychologic and pharmacologic.

The Anatomic Approach

The anatomic approach to relief of obstetric pain had its beginning in 1933, when Cleland delineated the pathways of obstetric pain and showed how uterine contractions could be made painless by paravertebral block of the eleventh and twelfth thoracic nerves[7].

The anatomic approach was popularized and made feasible by the use of continuous caudal analgesia and anesthesia, introduced by Edwards and Hingson in 1942[8]. The pros

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Table 2
Blood Levels and Arterial Oxygen Saturation of Anesthetic and Analgesic Agents

Agent	Time	Maternal Concentration (mg./100 cc.)	Fetal Concentration (mg./100 cc.)	Fetal Arterial O2 Saturation (percent)
Ether (Smith[12a])	8 min.	.718	.755	57.1
	10 min.	.680	.570	57.1
Cyclopropane (Rovenstine[12b])	5-8 min.	5-12	6	50
		12	12	40
	Cesarean Sections	15	13	35
Paraldehyde (Gordon[12c])	At Delivery	16.6	15.5	

Table 3
Transfer of Surital and Pentothal Across the Placental Barrier

Drug	Amount Gm.	Duration of Anesthesia (minutes)	Mother (mg./100 cc.)	Infant (mg./100 cc.)	Infant Reaction (Breathing fully established)
Pentothal[15a]	.7	5	3.9	0.8	
	.4	12	2.25	2.25	
	1.0	12	6.2	5.0	
Surital[15b] (12)	.3	4½	1.0	.05	Immediate
	.25	4	.65	.15	Immediate
	.43	8½	1.90	1.50	8½ min.
	.3	12	1.20	1.0	12 min.

and cons of caudal analgesia are familiar. The results have been generally good[5]; however, the method is not feasible except in hospitals where trained physicians and nurses are available.

The Psychologic Approach

The psychologic approach to obstetric pain relief, championed by Read[9], Sawyer[10] and Thoms[11], is based upon the premise that if fear is removed, the pain of uterine contractions and parturition can be tolerated with only minor discomfort. This approach to the pain of labor and delivery should be used in some degree by every physician. No longer should a woman go into the hospital with the fears and superstitions of generations of women spinning in her brain. No longer should she become hysterical because of the lack of care, companionship, and the presence of a physician during labor. Psychoanalgesia, however, leaves much to be desired during the terminal part of the first stage and all of the second stage of labor and delivery. In the majority of women, medical analgesia is also needed.

The Pharmacologic Approach

The shortcomings of the anatomic and psychologic approaches to obstetric analgesia have led us to attempt to obtain as much knowledge of the pharmacology of analgesics, hypnotics, and amnestics as possible. It has led us to understand how analgesic and anesthetic agents cross the placental barrier and how they are metabolized. It is hoped that by this approach we can learn to balance analgesic and anesthetic agents, and use these potent drugs according to the fundamentals of drug therapy. The most important fact that must be understood is that all the known anesthetic and analgesic drugs rapidly cross the placental barrier and maintain essentially equal concentrations in both mother and fetus.

Table 2[12] shows that the concentrations of ether and cyclopropane are directly proportional to the concentration of the inhaled gases and the duration of anesthesia. When these drugs are used, the anesthesia should not be started until the delivery is imminent, and the level of anesthesia should be maintained at the first plane of the third stage of anesthesia. This is particularly true of cyclopropane, since prolonged anesthesia with this agent possibly reduces the fetal arterial oxygen saturation[12b]. Fortunately, however, the volatile gases are eliminated across the fetal alveolar membrane with fair rapidity, and if the anesthesia is not superimposed upon excessive analgesic agents, delayed fetal respirations need not be serious.

Unfortunately, this is not true of the hypnotics, Pentothal and Surital, which are sometimes used for obstetric anesthesia. These drugs are parasympathmetic hypnotics, having their primary action on the hypothalamus and frontal lobes of the brain. They become anesthetics only when the entire central nervous system is sufficiently depressed to include the pain centers in the hypothalmus[13].

Surital and Pentothal are not short-acting anesthetics as previously thought. They go rapidly into the fat depots of the body and there are slowly metabolized for as long as 12 to 16 hours[14]. They do, however, take some time to reach equilibrium in the maternal tissues and in the placenta (table 3)[15]. If the fetus is delivered within four to five minutes after the initiation of the anesthesia, the infant suffers only minor respiratory depression. If, however, delivery is delayed more than five to six minutes, the fetal and maternal blood levels may become

equal. Once an excessive amount of Pentothal or Surital has passed into the body, it will not be quickly eliminated as in the case of ether or cyclopropane, but will remain in the fetal tissues possibly to depress the infant from four to six hours. It can be easily understood how the use of depressive analgesic drugs, plus intravenous anesthesia, can cause severe asphyxia neonatorum.

Snyder[16] and Dille[17] have shown that morphine and the barbiturates rapidly cross the placenta. Recently Aptgar has shown that Demerol also crosses the placenta[18]. The fact that these agents pass across the placenta and enter into the fetal circulation should not deter the obstetrician from using them, but should caution him to use analgesic and hypnotic drugs carefully in accordance with established pharmacologic principles.

Balanced Analgesia

The usual patient in labor is experiencing pain either from uterine contractions or vaginal and perineal dilation. To use barbiturates for relief is not pharmacologically correct. Barbiturates are not analgesics; they cannot be depended upon to produce either sedation or sleep in the presence of pain. They often produce delirium, however, when given in sufficiently large doses in an attempt to achieve analgesia[19]. This has been the usual result when barbiturates have been used with scopolamine in an attempt to produce amnesia and analgesia[20]. The morphine derivatives, on the other hand, such as Demerol *are* analgesics and actually increase the threshold of pain; but unfortunately Demerol has little effect as a sedative. Scopolamine is an amnesic drug which traverses the placental barrier but causes no fetal depression even in extremely large doses[16,21].

It would seem advantageous, therefore, to use all three of these drugs in an effort to obtain balanced analgesia resulting from the analgesic qualities of Demerol, the hypnotic qualities of the barbiturates, and the amnesic properties of scopolamine. They should be used in such a manner as to maintain blood concentrations that will effect analgesia and hypnosis without producing fetal depression. This can be done with our present knowledge. We know that analgesic drugs cross the placenta and maintain relatively the same blood levels in the fetal and maternal blood. We also know, within limits, the rapidity with which these drugs are metabolized in the maternal and fetal blood[19,22]. Even with this pharmacologic knowledge at our disposal, however, three cardinal rules of administering pain relief must be strictly followed.

Table 4
Plasma Levels of Demerol After Intravenous Injection of 150 mg. (Lief and Burns[19])

Drug	*Initial*	*1 Hour*	*2½ Hours*	*4½ Hours*
Demerol (mg./liter)	1	0.6	0.45	0.25

Initial fall represents attainment of plasma equilibrium; subsequent metabolization, 15-20 per cent per hour.

1. No analgesic drug should be given until the patient is in good productive labor. This means that uterine contractions should be occurring at least every three to five minutes and lasting at least 30 seconds. The cervix should be dilated at least 3 cm. in the multipara and 4 cm. in the primipara. Prior to this time psychoanalgesia should be employed and emphasized.

2. Even under these obstetric conditions, analgesia should not be given unless the patient desires and needs it.

3. There must be no routine schedule. Medication for pain relief must be administered only as needed by the patient, and only by a physician.

Demerol

Table 4 shows that the plasma level of Demerol falls almost 50 per cent within the first hour, and is metabolized at the rate of 15 to 20 per cent per hour thereafter. This original fall occurs when the drug reaches equilibrium within the tissues of the body. The Demerol which is within the tissues is not present in the plasma to produce analgesia upon the pain centers in the hypothalmus or to cross the placenta. The effective plasma level of the mother, however, traverses the placenta, reaches equilibrium within the placenta, and finally achieves equilibrium within the tissues of the fetus. What remains in the fetal plasma is the effective depressant level in the infant.

At present we do not know the exact fetal blood levels of Demerol. If the drug is given according to the known facts of its metabolization in the maternal blood, however, we are reasonably safe. Demerol should then be given in the following manner. The initial dose should be 50 mg. given intravenously, allowing three minutes for administration. It should be given intravenously to avoid any question as to its absorption, and to obtain a plasma level rapidly. The

Table 5
Plasma Levels of Nembutal
After Intravenous Injection (Brodie[22])

Drug	*Initial*	*2 Hours*	*4 Hours*	*8 Hours*	*12 Hours*
Nembutal mg./L	9	8	6.5	6	5.9

Initial 4 hour fall represents attaining plasma equilibrium; subsequent metabolization 2%/hr.

50 mg. dose may be repeated in one hour to raise the plasma level to its initial value. Subsequent doses should then be given only as needed by the patient. This may be at the approximate rate of 50 mg. given intravenously every two hours, but this dosage should not be incorporated into a routine.

Nembutal

Table 5 shows the rate of metabolization of Nembutal. The actual blood levels will depend upon the amount of the drug administered. It is quite evident that Nembutal is metabolized very slowly, only 2 per cent per hour. Thus any plasma level which is obtained in the mother and fetus will remain for a considerable period. Any barbiturate used in labor, therefore, must be administered with caution. The initial dose of Nembutal or intravenous Seconal should not exceed 100 mg.; it should be given intravenously, taking 3 minutes for its administration. Within two hours the plasma level of the barbiturates will fall between 10 and 20 per cent. Thus a second dose of 50 mg. may be given in one to two hours, only if further sedation is needed. Subsequent doses should be given only upon the strictest needs of the patient, for it is easily seen that accumulative action can be obtained.

Scopolamine

Since scopolamine has no depressant effect upon the fetus, its use depends entirely upon what is desired for the mother. Many patients do not desire amnesia in labor. In general their wishes should be respected. Other women become wild and violent under scopolamine; these patients are not fit subjects for the drug. There are other obstetric patients, however, who desire and may be given scopolamine satisfactorily. No routine schedule should be laid down. A working dosage, however, would be 0.6 mg. (1/100 grains) of scopolamine given intramuscularly or intravenously with the Demerol. The second dose should be only 0.3 mg. (1/200 grains) given intramuscularly after one hour, or after tissue equilibrium has been obtained. Subsequent doses should be 0.3 mg. given intramuscularly as needed. One should always be alert to scopolamine overdosage, as manifested by rapid pulse, circumoral pallor, and dilation of the pupils.

Table 6
Percentage of Infants with Poor Reactions in Normal Obstetrical Patients
(Johns Hopkins Hospital Study—
Hellman and Hingson[23])

Study Group	*Total Infants*	*Breathing Time 1 Minute*	*Crying Time 5 Minutes*	*Poor Condition at Birth*
Sedation—Inhalation	292	8.83%	16.13%	2.74%
Sedation—Intravenous	195	10.22%	19.57%	5.15%
Psychoanalgesia	140	4.17%	5.88%	2.16%
Sedation—Terminal Block	204	2.54%	11.62%	1.47%
Continuous Conduction	212	2.39%	9.57%	2.84%

Thus by the intelligent use of these complementary drugs, balanced analgesia is obtained. Demerol causes analgesia with little sedation; barbiturates cause sedation without analgesia; scopolamine causes amnesia with minimal analgesia and sedation.

In administering relief of obstetric pain, the obstetrician should not follow any set patterns. He should have many analgesic and anesthetic techniques at his disposal, and he should adapt them to the particular situation at hand. He must realize, however, that any drug except scopolamine that is used as an analgesic or anesthetic agent crosses the placenta, and if he desires to keep to a minimum the incidence of asphyxia neonatorum, he should not superimpose general anesthetics on analgesic agents. If analgesia is employed to any extent, the mothers should be delivered under a terminal block utilizing either local, spinal, or caudal anesthesia.

Table 6 is the result of a careful study of the entire problem of anesthesia and analgesia in obstetrics done by Dr. Louis Hellman and Dr. Robert Hingson at Johns Hopkins Hospital[23]. It shows that the lowest percentage of infants in poor or doubtful condition, or infants who gave any concern as to their future well-being, was found in the maternal group which received analgesia plus a terminal block for delivery. This study emphasizes the danger of superimposing anesthesia on heavy analgesia.

Conclusion

It has been 100 years since Simpson gave the first obstetric anesthetic. It has been nearly 50 years since von Steinbuchal gave the first obstetric analgesic. We have, in the meanwhile, accomplished a great deal in the field of obstetric pain relief, but the perfect obstetric analgesic and anesthetic agent has not yet been found. Many new drugs and techniques will be developed in the future, but as we evaluate the new and use the old let us exercise caution and apply the fundamental principles of the pharmacology and physiology of obstetrical anesthesia and analgesia.

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PYOGENIC ABSCESS OF THE LIVER

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Since pyogenic abscess of the liver is relatively rare, one observer sees but few cases. The establishment of safe drainage presents great variety of choices, both as to approach and technique, and requires much ingenuity on the part of the surgeon. Medical treatment, despite the recent antibiotics, is still only an adjunct to surgery, as will be shown.

This report is based on a study of all cases of proven pyogenic liver abscess diagnosed at Watts Hospital from July, 1937, through December, 1951. There was a total of 12 patients. All of these were operated upon except one, who came to autopsy. The operative mortality was only 18.2 per cent.

Incidence

As is common in so many severe diseases, the unfortunate male is afflicted with hepatic abscess more often than is the female. Nine of our 12 patients were males.

Young adults bear the burden of this disease. In our series, 7 patients were between the ages of 20 and 40 years, and 5 were more than 40. There were no cases in the newborn. In the newborn, suppurative phlebitis secondary to omphalitis is the common precursor of liver abscess.

Etiology

In pyogenic liver abscess the microorganisms gain entrance to the liver through different routes. The portal vein carries bacteria from the areas drained by the portal system as, for example, the appendix. The hepatic artery can bring organisms from distant foci, as from a dental abscess. By direct extension an organ such as a diseased gallbladder may cause an abscess. Infection can enter through penetrating wounds of the

liver. A subcutaneous abdominal wound can devitalize a part of the liver, and bacteria may then cause an abscess. In many cases no source or route can be determined, and the abscess is then classified as primary, idiopathic, or cryptogenic.

In this series liver abscess was associated with gallbladder disease in 3 cases. In one an empyema of the gallbladder secondary to carcinoma of that organ had perforated the liver and formed an abscess about the size of an orange. In 2 cases of acute cholecystitis, there were some small abscesses in the surrounding liver. In 1 of these cases the gallbladder had ruptured into the liver and formed an abscess about 1 inch in diameter in the adjacent hepatic tissue. In the other there were three smaller abscesses in the adjacent liver tissue.

Acute appendicitis was present in one instance, and probably caused the abscess. The spread of the infection was not by continuity. Though no pylephlebitis was demonstrated, the infection probably entered the liver through the portal vein. A tooth extraction was the likely source of infection in 1 case.

An amebic abscess complicated by an infection with Friedländer's bacillus was included in this series. It is generally considered[1] that the amebic abscess develops first, then becomes complicated by a pyogenic infection in about 10 per cent of the cases. This case was included because the chief problem is the bacterial infection, not the amebic component. Such pyogenic invasion of an amebic abscess carries a high mortality, and must be treated by open drainage[2].

In half of our cases no likely source of the infection could be demonstrated, and thus they fall into the group of idiopathic hepatic abscesses.

Many different organisms have been identified in hepatic abscesses previously. The bacteriology of our series was varied. In 3 of the 12 cases reported no bacterial studies were made, in 3 cases no bacteria were found, and organisms were demonstrated in 5 cases. These organisms consisted of colon bacilli, hemolytic streptococci, aerobic streptococci, fusiform bacilli, spirochetes, and Friedländer's bacilli. In many of our cases these infections were mixed, as they frequently are. Friedländer's bacillus was found in large quantities in an amebic abscess.

When open drainage is performed, it is important that some of the lining of the cavity be secured for examination; because, if amebae are present, they are often easily demonstrated in the cavity scrapings when the free pus shows none. Even in temperate zones amebic abscess must be ruled out by careful studies of the abscess itself and of the colon. Not uncommonly is amebic abscess present without colonic symptoms such as diarrhea. Thus a thorough search for amebae and bacteria should be undertaken in all cases.

Signs and Symptoms

In pyogenic abscess the clinical picture is varied and often confusing. In reviewing our cases three rather distinct pictures could be discerned. The commonest pattern was primarily one of thoracic manifestations. These patients were acutely ill, ran a septic course, and had an inflammatory process involving the right pleural space and lung. Plueritic pain was often prominent, with a productive cough and radiographic findings of pleural fluid and pneumonitis in the right lower lung field. Cough productive of purulent sputum, sometimes copious, confused the picture, and the patient was treated for pneumonia for weeks and even months before the true source of the difficulty was even suspected. In no case in this group did the abscess perforate the diaphragm as we have seen happen elsewhere. Copious sputum should certainly suggest the development of a bronchopleural fistula.

Next in frequency was the group of patients running a severe febrile course, with mild to moderate signs and symptoms in the right upper quadrant. The impressive feature was a septic course without localizing signs. Last was the picture of biliary tract disease, showing such typical features as colic, scapular pain, and signs of acute inflammation in the right upper portion of the abdomen. The finding of a liver abscess in such cases was surprising, as the clinical picture had not even suggested such important a lesion.

When abdominal manifestations were evident, the pain and tenderness were often only mild to moderate, but occasionally severe. Tenderness over the lower ribs, which should be carefully searched for, was not uncommon with abscesses in the dome of the liver and with those located in the posterior portions of the liver. Especially important as a valu-

able guide to the best surgical approach is the exact location of tenderness. When the process is in the inferior or anterior aspect of the liver, tenderness is usually anterior. In one massive abscess involving the entire right lobe of the liver tenderness was distributed evenly over the whole lower right portion of the chest, in the costovertebral angle, flank, and upper quadrant of the right side of the abdomen. The best approach for draining an abscess showing such diffuse signs is difficult to decide.

Nausea or vomiting was conspicuously rare in this series, occurring in only 2 cases, Rothenberg and Linder[3] have observed that nausea and vomiting occur far less frequently in hepatic pyogenic abscess than in other intra-abdominal suppurative processes. So in this regard also the liver remains silent.

In 5 of the 12 cases the liver was palpably enlarged. In a few of these the enlargement was quite marked. An icteric tint was thrice noted and mild jaundice once. Only occasionally was the icteric index elevated even slightly. In one it was up to 30. In general, therefore, it may be said that for such a severe disease of the liver there seems to be a minimum of leads pointing to this mutely offending organ.

The temperature chart is striking, with daily spikes up to 103 to 105 F. This febrile reaction continues unabated for weeks and months until drainage is established, after which there is an immediate and dramatic drop. Occasionally the septic fever is less striking. In our series it failed to develop in 2 cases only. In both of these there were small abscesses accompanying suppurative gallbladder disease. They exhibited only a moderate febrile reaction. The highest preoperative temperature in each of our cases is tabulated (table 1).

Table 1
Highest Temperature Recorded Pre-operatively in 12 Cases of Pyogenic Liver Abscess

Temperature	No. Cases	
99 F.	1	Acute cholecystitis
101 F.	1	with abscess
103 F.	4	
104 F.	4	
105 F.	2	

Table 2
Highest White Blood Cell Count Before Operation

White Blood Cell Count per cubic millimeter	No. Cases	
10,000-15,000	2	(Abscess complicating cholecystitis)
15,000-20,000	2	
20,000-30,000	8	

Laboratory findings

Leukocytosis was striking and paralleled the febrile reaction in general. The highest pre-operative white blood cell count in each case is shown in table 2. A count rising up to 20,000 or 30,000 is the rule. As with the febrile reaction, the leukocytosis was only moderate in those cases with small abscesses complicating cholecystitis. There is also a shift to the left in the differential count accompanying the leukocytosis. Anemia is usually present. Blood cultures are only rarely positive.

Roentgenography is of great value in the diagnosis of liver abscess. Characteristically there is elevation and reduced motility of the diaphragm, usually on the right. Pleural effusion and consolidation of the right lower lung field are common. Roentgenology was of diagnostic aid in over half of our cases. Miles[4] has demonstrated that abscess of the left lobe of the liver can produce deformity of the stomach. The lesser curvature assumes a crescentic shape, and the cardia and duodenal cap are displaced.

Diagnosis

The diagnosis of pyogenic hepatic abscess may be difficult, and is frequently overlooked. The clinical picture and laboratory findings previously presented in this paper are of great aid. In the presence of pain and tenderness over the liver, accompanied by chills and fever, hepatic abscess should be considered, especially when the liver is enlarged and jaundice is absent. If in addition there is marked leukocytosis with a shift to the left in the differential count, the diagnosis is more certain. When also roentgenograms show a limitation of diaphragmatic movement and a pleural effusion, the diagnosis of liver abscess is justified.

Amebic abscess is the most important disease to differentiate from pyogenic liver abscess because of the fundamental differences in therapy. Especially is this true before the amebic abscess has become secondarily infected. According to Ochsner and others[5], amebic abscess of the liver characteristically presents a notably different clinical picture. The onset is insidious, high fever and chills

are rare, and the patient does not appear so severely ill. A history of diarrhea and demonstrable *Endamoeba histolytica* in the stool are often present.

We feel that diagnostic aspiration of a pyogenic abscess is a most dangerous procedure and should not be undertaken. However, if the picture is one of amebic abscess, aspiration should be performed and open drainage avoided.

Subdiaphragmatic abscess may show the same clinical picture as hepatic pyogenic abscess and therefore be confused with it. However, subdiaphragmatic abscess usually follows peritonitis or some abdominal operation and should be readily thought of. Roentgenography often shows gas in a subdiaphragmatic abscess, a sign that is extremely rare in liver abscess.

Diagnoses erroneously made in this series were appendicitis, cholecystitis, and abscess of the kidney. Often in the early part of the illness the condition was diagnosed as pneumonia because of the preponderance of the chest symptoms over the abdominal. Whenever disease of the lower lobe of the right lung accompanied by pleural effusion does not clear as expected, a suppurative process in the liver area should be considered.

In the treatment of liver abscess it is imperative to differentiate, if possible, between amebic and pyogenic abscess, for in the former the prognosis is good and the treatment is not surgical. By contrast, in pyogenic abscess the prognosis is poor and surgery is indicated. The amebic abscess should be treated by amebacides and needle aspiration, which results in cures in about 95 per cent of cases. Open drainage of the amebic abscess should be avoided, since subsequently the sterile amebic pus becomes contaminated with pyogenic organisms and the mortality rate rises sharply. Only when the amebic abscess is shown to be infected with bacteria should open drainage be undertaken.

In certain cases wherein the type of abscess is in doubt, a course of amebacides will sometimes cause a marked beneficial response and clarify the doubt. If the abscess is pyogenic, no harm will be done by such a therapeutic trial. Such a trial is well worth the short delay it entails.

Treatment

In the treatment of liver abscess, the general condition of the patient must be maintained, for the septic course is a constant drain on his resources. It was surprising, however, how well the septic course was tolerated, often for long periods. Some patients in the present series were ill for months before open drainage was performed, yet stayed in fair general condition.

Table 3
Antimicrobial Treatment in Pyogenic Abscess of the Liver*

Drug	No. Cases
Sulfonamide	1
Penicillin	3
Sulfonamide and penicillin	1
Penicillin and aureomycin	1
Sulfonamide, penicillin, aureomycin, and terramycin	1
Penicillin, aureomycin, and emetine	1

*No clinical response.

The basic treatment is surgical drainage of the abscess. Resection of the abscess has rarely been accomplished. In multiple abscesses, drainage should be attempted when feasible. In the literature there are rare reports of such multiple abscesses being cured without drainage. Chemotherapy and antibiotics should be used according to the causative organism and hope held out for one of these very rare cures.

In the present series of 12 cases, sulfa drugs, penicillin, aureomycin, and terramycin were administered, alone or in combination, in 8 cases (table 3). In these cases there was no evidence of clinical improvement in a single case. Surgical drainage, however, gave a dramatic and sharp improvement as a rule. We feel, therefore, that surgery is the only reliable method of treatment and that the antibacterial drugs remain only adjuncts to surgery.

Location of the abscess

After operation has been decided upon it is necessary to select the best approach to the abscess. If the diagnosis is uncertain and the location of the lesion obscure, it is wise to consider exploring the abdomen through an incision in the right upper quadrant. We prefer to make a right rectus incision. Sometimes ascites is present. Even after the liver is seen and felt, a large abscess may be present without being immediately obvious. There may be no adhesions between the liver and peritoneum to add a clue to localization. In two large abscesses occupying more than half of the right lobe, the diagnosis was difficult to make with certainty. In these two cases, however, a feeling of fullness and tightness about the liver sug-

gested an underlying accumulation of fluid. Where this fullness was suggested, there lay the abscess.

Often, however, the abscess will possess features which point to its location in the liver. Most abscesses are in the dome of the right lobe. Lesions in this site often produce evidence of involvement in the diaphragm. The location of tenderness over the chest wall and the lateral roentgenogram often aid in determining its anterior or posterior location in the dome. Tenderness over the lower ribs posteriorly and sometimes edema over this area strongly suggest a posterior abscess. In one patient under our care the point of maximum tenderness was in the right costovertebral angle. At operation the abscess was found pointing and fixed to the peritoneum just beneath the site of tenderness. The liver may be enlarged and show a tender bulge below the costal margin, suggesting a lesion in the inferior half of the liver.

Drainage

When the location of the abscess has been fairly certainly determined, preparations for drainage are made. We share the widely held concept that drainage of pus across a virgin pleura or peritoneum is generally to be avoided. The mortality rates are convincingly higher when such drainage is employed. The danger, of course, is that generalized peritonitis or empyema may develop when this route is utilized. Both of our surgical deaths occurred after drainage across virgin peritoneum. Though it is true that the 6 patients treated by this type of transperitoneal drainage lived, we feel that they survived in spite of the method.

An extraperitoneal approach and drainage should be attempted when possible. When the abscess lies just beneath the anterior surface of the liver, firm adhesions are often formed between the liver and the parietal peritoneum. In these cases Clairmont's[7] subcostal incision is useful. The abdominal muscles are divided down to the peritoneum. The peritoneal cavity is not entered, but instead the peritoneum is stripped away until the area of attachment to the liver abscess is found. Then with a finger or curved clamp, the abscess cavity is entered. If pockets are noted in the abscess, these should be opened with the finger. Drains should be generously used and left in place until the cavity is obliterated. We often use soft rubber tubes as well as Penrose drains. Even some dome abscesses may be drained by this route.

In posteriorly situated abscesses Ochsner's[8] approach, employing resection of the twelfth rib, may be of use. Care is taken not to enter the pleural cavity, and the peritoneum is again stripped away, this time from the posterior abdominal wall and diaphragm, until the abscess is found and drained. We once used this approach with initial success. However, the abscess was in the top of the dome of the liver, the drains slipped out of the abscess, and some days later a second operation employing more direct drainage across the pleural cavity was successfully accomplished.

When extraperitoneal drainage is not employed, a two-stage procedure should be considered. In the first stage the abscess is found and adhesions between the liver overlying the abscess and the parietal peritoneum are produced. Some irritating material such as iodoform gauze can be used for this purpose. Several days later, at least 48 hours, the abscess is opened through this adherent area. In this manner the integrity of the peritoneal cavity is kept unsoiled.

Such procedures are usually not difficult in the abdomen. In the chest, however, this type of two-stage procedure in which pleura is made adherent to pleura has apparently been more difficult, and empyema is a frequent complication. Though we have not employed the method, we believe it is fundamentally sound. Carefully executed, it might give good results.

Transpleural drainage has been criticized and the relative safety of the abdominal approach stressed. Transpleural drainage has the great advantage of offering more direct access to and drainage of certain abscesses of the dome, and we believe is often the operation of choice. Rothenberg and Linder[3] in 1934 reported 24 cases of single pyogenic liver abscess. Half were drained via the abdominal route, with a mortality rate of 58.3 per cent, and half drained via the transpleural route, with a mortality rate of only 25 per cent. Unfortunately, the technique used was not described in detail. Neuhof[9] has demonstrated that subdiaphragmatic abscesses may be safely drained transpleurally by a one-stage procedure. He sutures the diaphragm to the chest wall so that a watertight wound is obtained, then immediately enters the abscess through the diaphragm. The problem is essentially the same in hepat-

ic as in subdiaphragmatic abscess.

In the hands of a surgeon possessing basic thoracic experience, we feel that the transpleural drainage as a one-stage procedure is often the method of choice. A segment of one or more ribs overlying the abscess is removed and the pleural cavity entered. The abscess is felt or seen as a bulge in the diaphragm. Then the intercostal muscles and pleura are sutured to the diaphragm about the bulge, care being taken to make this suture line air-and water-tight. If it is, then the diaphragm is opened and the abscess entered. Two of our patients were thus successfully treated without complications. If the liver is not adherent to the diaphragm, then the wound should be packed and the abscess opened only after adhesions are established. Otherwise pus could spill over the dome of the liver between it and the diaphragm and produce peritonitis. Modifications of this basic method will arise. The pleura without the intercostal musculature may be used. The diaphragm may be incised and the edges of this wound sutured to the chest wall when the abscess is not adherent to the diaphragm. We have employed all these methods with satisfaction.

When adequate drainage has been established, the septic course is sharply terminated and the cavity begins to drain and shrink. Drains should be gradually withdrawn but not removed, until only a short sinus tract remains. Otherwise the abscess quickly reforms and the septic picture returns. The cavity disappears within weeks or months, depending on its size. Even massive abscesses can close remarkably fast.

Complications

The complications of pyogenic hepatic abscess usually result from rupture of the abscess into adjacent organs. Ochsner and others[5], in a review of 453 collected cases, found pleuropulmonary complications most frequently (15 per cent). They found that peritonitis caused by perforation into the peritoneal cavity or contamination at the time of transperitoneal drainage occurred in 8.2 per cent of these 453 cases. Subdiaphragmatic abscess was noted in 3.9 per cent.

In our series of 12 cases no empyema or lung abscess occurred, but in several patients pneumonitis at the right lung base was present. A generalized peritonitis resulting from contamination of the peritoneal cavity during transperitoneal drainage occurred in 3 patients, of whom 2 died. Subdiaphragmatic abscess resulted from the spontaneous rupture of one abscess in a case of multiple abscesses of the liver, and in one case with a single abscess. The latter of these patients died from a generalized peritonitis resulting from transperitoneal drainage, and the other from a continuation of the disease process.

Prognosis

Many factors influencing the prognosis in pyogenic hepatic abscess have been determined. Multiple abscesses carry a grave prognosis and high mortality. In cases associated with acute appendicitis and pylephlebitis, the mortality rate has been around 90 per cent. In a series of 20 patients with multiple abscesses reported by Ochsner and others[5], 19 died, whereas in their 24 cases of single abscess the mortality was only 37.5 per cent. In complicated cases the mortality triples.

The route of drainage has an important influence on prognosis. If drainage can be accomplished without contaminating the peritoneum or pleura, the chances of survival are increased. If these abscesses are not drained they are almost always fatal. Ochsner and others report that in a collected series of 432 cases the mortality rate was 79.6 per cent, whereas in 102 collected cases not treated surgically it was 100 per cent.

In our series of 12 cases, the only patient not operated on died. In the 11 patients who were operated on the mortality rate was 18.2 per cent.

Summary

We have presented 12 cases of pyogenic liver abscess treated, with an over-all mortality rate of 25 per cent and a surgical mortality rate of 18.2 per cent. The clinical pictures, laboratory data, and other features of these cases were discussed. The diagnosis and treatment of this serious illness are difficult.

Chemotherapy and the antibiotics alone did not change the course of this disease in our experience. Open drainage of the abscess cavities was required to cure our cases. Contamination of virgin pleural and peritoneal cavities must be avoided at the time of surgery. In certain abscesses in the dome of the liver, we have found that carefully performed transpleural drainage could be accomplished with excellent results.

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MASSIVE TUMOR OF THE PAROTID GLAND

With Report of a Case

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This paper concerns a case of massive tumor of the parotid gland, with a brief discussion of parotid tumors in general. Since the case in question is one of primary mixed tumor of the parotid gland with some carcinomatous element, the discussion will emphasize mixed tumor and carcinoma of the parotid gland.

Classification of Salivary Gland Tumors

The parotid, submaxillary, and sublingual glands are the chief members of the group of salivary glands. There are many similar glands scattered about the oral cavity, however, especially in the tonsillar pillars, the hard palate, the buccal mucosa, and the lips[1]. Tumors of the salivary gland are rare. When they occur, they may be present in any of the aforementioned areas, but are most commonly found in one of the three major salivary glands. Of the entire group, the parotid gland is the most common site.

In a review of 141 cases of salivary gland tumors at Johns Hopkins, Hendrick and others found that 70.9 per cent were tumors of the parotid gland[2]. Kirklin and others, in a Mayo Clinic series, found that 71.8 per cent of parotid tumors were mixed tumors. In this same group, 21.1 per cent were carcinomas[3]. Except for the mixed tumors and carcinomas, tumors of the salivary glands are rare.

Table 1
Tumors of the Salivary Glands
(From Ackerman and Regato[4])

1. Benign Tumors
   - A. Hemangioma
   - B. Lymphangioma
   - C. Lipoma
   - D. Adenoma (arising from salivary gland)
   - E. Papillary cystadenoma lymphomatosum
   - F. Typical mixed tumor (composed of variable amounts of connective tissue, ductlike structures, and cartilage)
   - G. Mucoepidermoid
2. Semimalignant or of low malignancy
   - A. Mucoepidermoid
   - B. Adenocarcinoma (cylindroma, basal cell)
3. Highly malignant
   - A. Epidermoid carcinoma
   - B. Unclassified carcinoma
4. Sarcomas

A simplified classification of salivary gland tumors is shown in table 1[4].

Anatomy

Before proceeding with a discussion of mixed tumors and carcinoma of the parotid gland it would be well to review briefly the anatomy of the parotid gland and its relationship to the facial nerve. The parotid gland is the largest of the major salivary glands[4]. The fully developed gland lies behind the upper part of the ramus of the mandible, which it overlaps medially and laterally. There are numerous extensions of the gland, and the gland itself is enveloped by the parotid sheath, which is continuous with the fascia of the neck. The gland is consistently composed of two lobes. The small deep lobe overlies the condyloid and coronoid processes of the ramus of the mandible, the large superficial lobe conceals the lesser lobe and is usually triangular in outline, with the apical portion directed downward. The two lobes are connected by an isthmus. In a cross-sectional view, these features give it the appearance of a dumbbell.

The relationship of the gland to the facial nerve is of great importance from a surgical standpoint. Contrary to common belief, the facial nerve does not pass through the substance of the parotid gland but goes between the two lobes. After the nerve emerges from the stylomastoid foramen, it passes anteriorly to lie between the lobes of the parotid gland in close relation to the isthmus; proximal to the isthmus, it divides into two main branches, the temperofacial, which courses anteriorly and upward, and the cerviofacial, which courses downward and anteriorly. These two main branches are usually covered by the superficial lobe of the gland and, as

they course forward, embrace the isthmus. Distal to the isthmus these two main branches commonly divide from above downward into the five main divisions of the facial nerve —the temporal, zygomatic, buccal, mandibular, and the cervical. In the majority of cases numerous anastamoses between these branches occur anterior to the isthmus of the gland[5].

Mixed Tumors

While mixed tumors may occur in any of the major salivary glands or other locations previously mentioned, they are most commonly found in the parotid gland, and comprise about 75 per cent of parotid tumors. This tumor typically arises in a well circumscribed area just above and in front of the angle of the mandible, but it may develop just anterior to the tragus of the ear and be confused with a preauricular lymph node. The tumor is usually slow-growing, and over a period of years may form a swelling that gradually increases in size to a diameter of 10 cm. or more. It is generally ovoid, but may be lobulated. It has a rubbery consistency and at times may be cystic. Kirklin found it most common in the fourth and fifth decades but others state that the majority of such tumors are found in patients between the ages of 20 and 40. They may be found as early as the second decade or they may make their first appearance in the sixth and seventh. In a large series, Brown found these tumors to be present in females and males in a ratio of 57 to 43 per cent. The tumors are encapsulated, painless, freely movable, and are associated with no facial nerve involvement[1,4,5c,6].

The microscopic structure of these mixed tumors is complex. Several different kinds of tissue are present, such as strands of epithelial cells which may show a glandular arrangement, mucoid connective tissue, a substance which is variously spoken of as cartilage or pseudo-cartilage, and lymphoid tissue. Epithelial pearls may appear, and calcification may be present[1,3,7].

There is a diversity of opinion as to the origin of these mixed tumors. Some claim that they are epithelial in nature, being derived from salivary epithelium, while others theorize that the tumors are adenomas of the salivary glands, or that they are derived from misplaced elements of the developing notochord[1,7].

Mixed tumors are benign lesions, but have a tendency to recur locally. The rate of recurrence after excision has been quoted as 25 to 40 per cent[2,8]. The longer a series of cases is followed, the larger will be the percentage of recurrences; for these tumors may recur 30 to 40 years after removal. It has been found that tumors which have been operated upon the second time are more likely to recur than tumors which are undergoing their first removal[3].

The high recurrence rate of mixed tumors has been blamed on inadequate surgical removal. Frequently in removal the capsule tears and a portion of the substance is left behind. Some feel that several millimeters of normal tissue should be removed around and with the gland, or that the entire lobe should be removed, to prevent recurrence. The close proximity of the facial nerve to the lesion has been blamed for inadequate removal of tissue[2]. Another opinion is that recurrences are due to multiple foci of mixed tumor tissue which may be found in any part of the gland[6,8]. In his review of the Mayo Clinic cases, Kirklin found no evidence that successive recurrences acquire progressively a more malignant histopathologic pattern, but that the recurrences microscopically resemble the primary tumor[3]. The life expectancy of the patient with a mixed tumor is about normal. Though the tumor may recur repeatedly, it seldom causes death except by extensive local recurrence producing damage to vital structures[3]. The lesion does not metastasize.

Carcinoma

Carcinoma of the parotid gland may appear in one of several different forms. It may be an adenocarcinoma, a squamous cell carcinoma, an undifferentiated carcinoma, a mixed type of carcinoma, or a cylindroma[3]. The latter resembles the cystic type of basal cell carcinoma. It is rather malignant and is frequently associated with facial paralysis owing to involvement of the facial nerve[4]. Cylindromas, though slow-growing, are associated with a high percentage of cervical node metastases and an eventual poor survival rate. Adenocarcinoma also has a high rate of metastases to neighboring nodes as well as to lungs. Squamous cell carcinoma, undifferentiated carcinoma, and mixed carcinoma all metastasize early[3]. In general it may be stated that carcinoma of the parotid gland carries with it a poor prognosis. Local

recurrence is usually prompt and metastases to cervical nodes are frequent.

Diagnosis

The clinical diagnosis of a typical benign salivary gland tumor is not difficult. These tumors are usually nontender, firm, and somewhat resilient. At times a small, inconspicuous, soft, rapidly growing malignant tumor may have its onset with facial paralysis, or the first sign may be enlarged lymph nodes in the neck. Rapidly growing malignant tumors often reveal a friable, vegetating growth. In the case of large tumors, whether they be benign or malignant, roentgen examinations may reveal destructive processes in the base of the skull, the zygoma, or the mandible. Sialography, by injecting lipidol into Stensen's duct, may be of some assistance in differentiating between a benign and a malignant lesion. Biopsies of the large lesions may be done without difficulty, but it is questionable whether a biopsy should be made of a small lesion. Frozen sections of the tissue are said to be quite difficult to interpret properly[4].

There are certain symptoms and signs which may help one differentiate between a benign and malignant lesion of the parotid gland (table 2)[4]. Paralysis of all or of any portion of the facial nerve is an ominous sign. Benign lesions rarely, if ever, involve the facial nerve, but approximately 40 per cent of malignant lesions result in some impairment[2]. Severe pain is rarely associated with a benign lesion. There may be some pain present, but if it becomes severe a malignant lesion is suggested[2,3]. Malignant lesions are often fixed to the skin and deep structures, whereas benign ones are freely movable. Malignant tumors are commonly stony hard, whereas the benign lesion is of rubbery consistency[4]. However, as Kirklin has pointed out, there is no single feature, or combination of features, which allows the identification of the type of tumor in any given case[3]. This implies that every parotid tumor, regardless of its size or duration, should be removed and examined histopathologically.

In the differential diagnosis, acute inflammations of the parotid gland have to be considered, as also do the presence of stones within Stensen's duct. Mikulicz's disease, with its bilateral involvement of the salivary glands, also has to be borne in mind. Metastatic malignant lesions in the lymphatic tissue around the parotid gland are most difficult to differentiate. Carcinomas of the skin and melanomas arising from the eye can metastasize to the preauricular lymph node or to nodes directly within the substance of the parotid gland. Various diseases of the lymphatic tissue can also cause some difficulty in diagnosis[4].

Table 2
Differentiation Between Benign and Malignant Salivary Gland Tumors
(From Ackerman and Regato[4])

	BENIGN	MALIGNANT
Clinical history		
Rate of growth	Slow (years)	Rapid (months)
Sex	More frequent in females	No essential difference
Age	Peak before 40 years	Peak about 50 years
Pain	Usually absent	Invariably present
Physical examination		
Fixation	Freely movable	Often fixed to skin, deep structures, bone
Facial nerve paralysis (Parotid tumors)	Unusual	Common (About 33%)
Consistency	Firm, cystic nodular	May be stony hard
Gross pathology	Well-circumscribed capsule; often shows cartilage	No capsule; invasion of bone and contiguous tissue
Metastases	Never	Rather frequent (lymph nodes; lungs, bone)

Treatment

The best treatment for tumors of the parotid gland is surgical excision. All operations for these tumors are influenced by the close proximity of the gland to the facial nerve. Numerous techniques have been developed to avoid injury to this nerve during the course of the operative procedure. The operation is best performed under endotracheal anesthesia, which permits adequate exposure of the operative area.

A variety of incisions, the majority paralleling skin creases in order to prevent unsightly scarring, have been advocated. By retracting the skin and subcutaneous tissue widely, the entire parotid gland can be exposed. The facial nerve can be identified before it enters the space between the two lobes of the parotid gland, and can be traced forward from that point with careful dissection. The nerve may also be identified by small branches which extend anterior to the gland, and are then traceable backwards to the main body of the nerve. Usually the inframandibular is utilized for this purpose. Another technique is to attack the tumor directly by going through normal overlying parotid tissue and identifying the nerve or a branch of the nerve which is expected to lie underneath

it. In all of these techniques the use of the galvanic current is of great help[2,5b,c,6,9].

Despite all precautions, injury to the facial nerve is not uncommon. Even when the nerve has not been cut there may be a loss of facial motion for about two months, apparently due to trauma to the nerve during the process of dissection[9b]. As previously mentioned, there are numerous connections between branches of the nerve anterior to the isthmus of the parotid gland. If one or two of the nerve divisions are cut where there are numerous anastomoses, paralysis may not result. If one of the two primary branches is injured near the isthmus, however, major paralysis may result and be permanent. It should be pointed out, however, that the facial nerve has good regenerative powers[5b,c].

For the primary benign mixed tumor of the parotid gland an adequate local excision should be sufficient[3,6]. Hendrick advocates complete excision with removal of normal surrounding tissue for ½ to 1 cm.[2]. McNealy feels that a superficial lobectomy might be the best procedure[5c]. In case of recurrent tumors, an extensive, wide, local excision should be done. Kirklin states that in many cases in this group, total parotidectomy may be necessary and that this may profitably be supplemented by the interstitial use of radon seeds[3]. Following removal of what was thought to be a benign tumor, occasionally the pathologic report will suggest malignancy. In such cases, Brown advocates either interstitial radiation with radon seeds or radical surgery, with an effort to save the facial nerve[6]. If carcinoma is definitely established, radical surgery should be performed, and there should be no hesitation in sacrificing the facial nerve. The operation may include total parotidectomy, but should also include radical excision of other tissues contiguous to the tumor itself[2,3,4,6]. If any involvement of neighboring lymph nodes is suspected, the incision can be extended and a radical neck dissection performed. Kirklin has stated that the feeling at the Mayo Clinic is that the incidence of nodal involvement justifies an attack on the regional lymphatics[3].

The place of irradiation for benign and malignant tumors of the salivary glands is unsettled. McNealy stated that nearly all parotid tumors are definitely radioresistant[5c]. Brown, on the other hand, has stated that malignant tumors are quite sensitive to irradiation and has suggested that interstitial radiation with deep and superficial radon seeds, either alone or combined with operation, is preferable to external irradiation[6]. Ackerman and Regato[4] feel that the benign mixed tumors do not react favorably, though the cylindromas do respond to irradiation. They feel that if a tumor has been incompletely removed or if there is evidence of postoperative recurrence, a thorough course of roentgen therapy is justified.

Case Report

A 38 year old Negro woman was admitted to the Stanly County Hospital, Albemarle, North Carolina, July 30, 1951, with a complaint of a tumor of the left side of her face. She stated that five years before admission she had noticed a small growth in the left parotid area. The mass grew slowly until about one year before admission, when the rate of growth was accelerated. The tumor then became so enormous and disfiguring that she tried to conceal it with her hair. Though no pain was associated with this lesion, there was slight difficulty swallowing. The patient noticed that when she manually raised the tumor she could swallow better. For about six weeks before admission she had some difficulty in completely closing her left eye. About one month before admission a biopsy was done and a report of benign mixed tumor of the parotid gland obtained. Roentgenograms of the skull and chest at that time showed no evidence of metastatic lesions, although a pressure defect was seen on the left mandible. Past history was uneventful except for the presence of a large soft tumor in the left shoulder area, which had been present for some years without increasing in size.

Physical examination revealed a somewhat obese 38 year old Negro woman with a huge tumor, about 10 inches in diameter, disfiguring the left side of her face (fig. 1). This tumor appeared to arise in the parotid area and was irregular in contour, with numerous projections, some of which were stony hard and some of which were cystic. Other cystic areas could be felt in the mass. The tumor could be moved as a unit, but appeared deeply fixed, with a smooth, hard extension into the upper neck and another well anterior to the submaxillary area, extending underneath the mandible. The left side of the pharynx had been pressed well toward the midline. Function of the facial nerve was impaired, as evidenced by inability to close the left eye completely and loss of motion in the left side of the forehead. No nodules were palpable in the neck, but it was impossible to examine the left side of the neck well because of the size of the tumor and the fact that the neck was extremely short. Physical examination was otherwise negative except for a blood pressure of 210 systolic, 120 diastolic, and a large soft mass (which felt like a lipoma) about the size of a baseball in the left shoulder area. The admitting diagnosis was mixed tumor and carcinoma of the left parotid gland with invasion of the neck, floor of the mouth, and side of the pharynx. Laboratory studies revealed 4,200,000 red blood cells, with a hemoglobin of 11.75 Gm. The white cell count was normal. The blood urea nitrogen was 11, fasting blood sugar 124, and prothrombin time 83 per cent. A urinalysis was negative. The serologic test for syphilis was positive.

Two days following admission an operation was performed under endotracheal anesthesia. It had been planned to do a preliminary external carotid

Fig. 1. Photographs of the patient prior to surgery.

ligation, but this was impossible because the size of the tumor prevented any approach to the neck. The tumor was excised by sharp and blunt dissection, removing a wide ellipse of skin. The lesion was found to be encapsulated, and appeared to have been removed in its entirety. It was necessary to remove a considerable amount of surrounding muscle in order to complete the dissection. The mucosa of the mouth was not entered. At one point a branch of the facial nerve was thought to be seen in the depths of the incision, but this had to be sacrificed in order to remove the mass. Bleeding vessels were ligated with 30 and 60 cotton. Following removal, there remained a large dead space which could not be closed with muscle groups and was filled in only with skin and subcutaneous tissue. The left ear, which had been stretched over the tumor, was not removed and was sutured down into position. A drain was placed in the lower part of the incision and a pressure dressing applied.

It was thought preoperatively that a tracheotomy would be necessary, but since the patient's airway seemed satisfactory at the close of the procedure, this was not done. Postoperatively, the patient did well and was discharged from the hospital on her ninth postoperative day.

The removed tumor weighed 1,200 Gm. after some of its fluid had been evacuated (fig. 2). The pathologic report as submitted by Dr. Robert P. Morehead of Winston-Salem was as follows:

"**Macroscopic:** The mass is submitted in two portions. One surface is covered by skin, and collectively they measure 14 by 14 by 13 cm. The tumor is lobulated and is composed of firm greyish-white tissue, with semi-translucent gelatinous areas. The lobules appear to be encapsulated. Irregular cystic spaces are present, the largest measuring 2.5 cm. in diameter. Some of these spaces are brownish in color and trabeculated. Six blocks.

"**Microscopic:** The tumor for the most part is composed of irregular groups of epithelial cells surrounded by loose connective tissue stroma. The cells for the most part retain embryonal characteristics, but in some instances they differentiate into recognizable squamous epithelium which keratinizes. There is a tendency toward cyst formation. The cells generally are hyperchromatic and possess numerous mitotic figures. Myxomatous areas are pres-

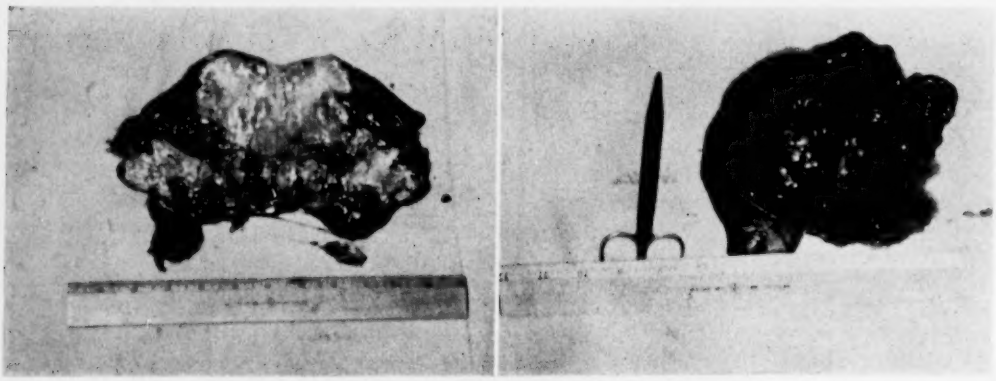

Fig. 2. Photographs of the specimen following removal.

Fig. 3. Photographs of the patient after the operation.

ent in certain situations, and keratinized areas are present in others.

"**Interpretation:** Diagnosis—Mixed tumor of the parotid with cytologic evidence of low grade squamous cell carcinoma.

"Although the tumor is cytologically malignant, invasion is not demonstrated and the lesion may therefore behave as a benign tumor."

Following surgery, a left facial nerve paralysis of the peripheral type was present in almost its entirety. The patient has done well since the time of surgery, and there has been no evidence of any recurrence to date or of any palpable nodes in the neck (fig. 3). The previously mentioned tumor of the left shoulder was excised some days after the parotid gland surgery and was found to be a benign lipoma.

Appreciation is expressed to Dennis B. Fox, M.D., F.A.C.S., Albemarle, for the photographs of the patient and of the excised tumor, and to A. F. Lapsley, M.D., Badin, for a follow-up study of the patient.

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There is much complaint about the scarcity of doctors in the rural districts. It is natural for young doctors to avoid the areas which cannot supply them with the facilities which they have been taught to use in the practice of medicine. Having practiced medicine myself in the country, in the small town, as well as in a fairly large city, I can speak with some knowledge of the conditions in each. I started in the country and did a general practice. Being young I was very enthusiastic, but in looking back on it, I feel that I could not have helped many of my patients because I did not know what to do. Since that time I have taught in modern hospitals with all facilities for practice. The country districts must have doctors and they must supply certain facilities to attract them. Preventive and curative agents available today, good roads and telephones enable the country doctor to see after the health needs of five times as many persons as could his predecessor of fifty years ago.—Coleman, C. C.: Some Observations on the Practice of Medicine, J. South. Med. & Surg. 103:165 (July) 1952.

The treatment of pulmonary tuberculosis is not a skirmish, not a battle, not a siege, but a long-drawn-out war with activity on many fronts. When treatment is started it must be based on strategic plans to suit the patient for a duration of at least five years, and maybe for a long lifetime. The plan must be to stifle and eradicate the infection while preserving at a maximum the function of the diseased part. Extension of the disease and complications in other parts of the lungs and other parts of the body must be dealt with quickly and as fully as possible. Calif. Med., John H. Skavlem, M.D., December, 1950.

ABNORMAL CONDITIONS RESULTING FROM UNCONTROLLED EMOTIONS

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The course of world history has been shaped far too often by the obsessive behavior of dominant leaders such as the unscrupulous Ivan the Terrible, Machiavelli, Napoleon Bonaparte, Kaizer Wilhelm, Mussolini, and Hitler — leaders who were controlled not by intelligence but by emotions. Not only have empires been disrupted by leaders who were moved by lust for power, aggression, prestige and independence, but individual lives, dominated by unhealthy emotions, have fallen prey to abnormal conditions of both mind and body.

Brock Chisholm recently said: "Indeed it is mental and social ill-health which is responsible for most of the continuing physical ill-health of the world. For instance, given universal mental and social health, such curses as tuberculosis, malaria, smallpox, diphtheria, typhus, venereal diseases, malnutrition and all its results, and many others could be eradicated in a very short time. Vaccination, inoculation, elimination of ignorance, poverty and squalor, redistribution of populations and reduction of birth rates in some places, combined with coordinated world-wide attacks on the vectors of some diseases, and more efficient agriculture, could change the ugly past and anxious present of the world to a future of progress and hope."

Dr. G. Canby Robinson expressed a similar opinion thus: "I am convinced that greater attention, generally, by the medical profession to social and emotional problems of individuals, even before they become ill, is an essential factor in the improvement of general standards of health in our present-day modes of living. It is the keystone of mental hygiene and would tend to prevent not only functional and personality disorders, but also such diseases as gastric ulcer, arteriosclerosis, heart disease, and so on."

Development of Psychosomatic Medicine

Although thousands of years ago Plato, Hippocrates, and Socrates noted the interrelationship of mind and body, it was not until the turn of the century, that the scientific application of this concept of medicine achieved prominence. Most physicians of the present accept the view that disease is the result of the behavior reactions of the whole man (body and mind) to stimuli within his environment.

Witness the startling picture revealed by statistics coming out of the Second World War. During a four-year period one million persons in the Army alone became emotionally disturbed to the extent that they had either nervous or mental disorders. Is it likely that such a large percentage of the recruits would have had such illnesses as gastrointestinal disorders, peptic ulcers, migraine, colitis, dermatitis, heart affections, hypertension, neurosis, and numerous other complaints if they had stayed at home? Although it is far easier to recognize painful chest discomfort, labored breathing, and high fever, one must learn also to recognize abnormal behavior, such as extreme nervousness, unnatural day-dreaming, morbid fear, anti-social tendencies, and immature actions.

Thus can the practitioner who is able to use the psychological approach to medicine prove an invaluable guide to families under his care. If, on the other hand, he is not able to attach significance to such phenomena as tics, convulsions, night terrors, fantasies, cruelty, chronic disobedience, temper tantrums, and other undesirable reactions, all of which frequently are the result of improper rearing by misguided or unenlightened parents, then the emotionally disturbed individuals are likely to experience serious maladjustments during critical periods in later life.

Physical Effects of the Emotions

Often chronic dissatisfaction, anger, fear, and shock affect the visceral organs and cause bodily ills of alarming intensity. Surprise, extreme happiness, and sadness vitally affect the appetite and digestive processes. Emotions accompanied by deep feeling and stored away within the unconscious frequently are in conflict with the conscious and all too often produce abnormal conditions of the mind.

Any strong emotional excitement—anger, grief, pain, worry or longing—slows down the vital processes and actually stops digestion. Not only do the glands responsible for the secretion of digestive ferments cease to function, but action in the alimentary canal

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itself also stops when individuals are emotionally disturbed.

Whereas many emotions, such as mirth experienced during a meal at the table, happiness at a picnic, enjoyment of music, prove highly beneficial, the emotions associated with unpleasantness and conflict may, if banished from consciousness and allowed to become chronic, prove as detrimental to the body as are toxins and bacteria. Thus psychic problems produce in the body physiologic changes which sometimes seriously alter the behavior. Though the physician of the old school implied that the patient's pain under such conditions was imaginary, scientists know today that the pains associated with psychosomatic conflicts actually exist.

It cannot be too strongly emphasized that one of the prime factors in any well ordered life is a sound, healthy alimentary canal, always fit to function as nature had intended it. Other things being equal, it might be said that one feels well in proportion to the normal, healthy activity of that canal. Whatever upsets it upsets us. Thus the psychic problems produce in the body physiologic changes which sometimes alter behavior.

Physiology teaches us that in health the gastrointestinal tract is subject to waves of peristalsis, but that its healthy functioning may be disturbed by toxins, inflammation, and so on. We have now learned that psychologic factors such as worry, unhappiness, quarreling, friction between mother and child, and similar disturbances can also upset the peristaltic action. Under distressing emotions the smooth activity is disorganized. Emotion disturbs the blood supply, gland functioning, and muscle tonus. It may even produce regurgitation. Sometimes the emotionally upset individual experiences an uncomfortable fullness, belching, nausea, and various degrees of discomfort, including pain. The lower bowels may also be affected by attacks of diarrhea or sometimes constipation.

The very act of taking food, should be a pleasurable one. It should be associated with friendship, happiness and love, not with shame, haste, fear, disgust, tension and worry.

It is, therefore, exceedingly risky to attempt to diagnose through only a review of symptoms in the *conscious*. It is necessary for the examiner to consider his patient from all aspects, and the disease as an expression of his entire life, including the phylum of which he is a part. A study of the patient's complete background should therefore reveal his personality traits and their disposition to imbalance, his occupational and vocational adjustment, heredity, social, familial and sexual adjustment, physical status, and onset of illness, as well as proneness to accident.

The Importance of Emotional Control

The control of the emotions, is a subject that has been of extreme interest to the medical profession and various social organizations for many centuries. It is of particular interest in our present social order, with all the axiety, fear, grief, and resentment to which man is daily falling heir. Even though the problem has been recognized since the time of Hippocrates, as was noted, few specialists prior to the past six decades were willing to devote their lives to the study of this problem.

Science has revealed that among those suffering from mental illnesses today, only 20 per cent actually show any lesion of the brain itself. To what, then, might the remaining cases of mental disorder be attributed? More than to any other factors they are traceable to disturbances of the emotions. Scientists contend that environments marked by tension, stress, rejection, lack of love, and security prove exceedingly detrimental to the emotional life of the individual. Hence general medicine, psychiatry, religion, and education are showing more concern today with the study of emotional stability and instability. They are seeking to utilize the knowledge gained from the study of both grave and minor disorders to formulate principles of mental health and of the great art of living, which, when applied by parents, teachers, nurses, doctors, ministers and all the molders of youth, will prevent the development of such disorders in children and will promote the growth of healthier, happier, and more effective adult personalities.

Throughout the world human nature is fundamentally the same, everyone being affected in certain ways by force of the emotions with which he is endowed. Emotions are known as the "feeling tones" of the individual. Emotions may appear at both the conscious and the unconscious level; but when such mental energy reaches the level of consciousness, it is then known as "emotion." The chief business of an emotion is to move

people. Hence we often see individuals visibly moved by fear, worry, revenge, despondency, disgust, reverence, shame, scorn, bashfulness, jealousy, joy, surprise, love, and so on.

Needless to say, there are healthful emotions as well as harmful ones. Indeed life would be dull, unexciting, and lusterless were it not for the effective play of these "feeling tones" of man's everyday existence. It is, however, principally with the play of harmful emotions that this article is concerned. Those emotions which are most commonly encountered in psychiatric practice are hostility, inferiority, lovelessness, insecurity, anxiety, guilt, ambivalence, and the type of ambition which is attended by envy and unwholesome competition.

Foundations of Emotional Stability

In order that wholesome patterns of emotional stability may be developed, it is necessary that the foundation be laid in early infancy. How important it is that a mother realize there is a direct path from the emotional centers of her child's brain to his body organs, and that nerve fibers lead to muscles, to gland structures and to blood vessels. How important it is that she establish a healthy relationship with the babe at her breast, as she lovingly, protectingly, and unhurriedly nurses him, while simultaneously laying the foundation of his future emotional health pattern. How essential it is that through her attitudes of loving approval he attain a feeling of well-being, security, and confidence in that one who feeds him and supplies his daily needs.

Many and difficult are the problems presented by the undisciplined child who evidences shyness, jealousy, negativism, hostility, rejection, self-pity, fear, and feelings of inferiority. Such an individual may actually give expression to his emotional problems by an exhibition of nausea, vomiting, tics, stammering, or hysteria. Later he may develop a neurosis of either a mild or serious degree.

Scientists agree that a child with a happy feeding history is likely to grow into one who conforms readily and adjusts happily to other aspects of his environment. On the other hand, they agree also that parent-child conflicts arising from feeding and eating habits furnish the starting point of many neuroses and psychoses in later life.

Children are easily conditioned by the reactions of not only their parents, but also their playmates and associates. The damage that an ignorant mother, nurse, or playmate can do to a child in a few days is incalculable. Conditioned fears may thus become so deeply ingrained that they result in phobias which persist and mar life's happiness.

While the constitutional changes of puberty are fairly well understood, there is much to be learned about the emotional stress and strain of the adolescent years. It is the common belief that adolescents tend to be radical in their attitudes, that they are unstable, and that their conduct cannot be predicted. Adolescence itself may present both a physical and mental problem to the child. He has to make new contacts, and this significant evolutionary phase may result in maladjustment, with its many attendant antisocial tendencies.

Parents on the other hand, by their overstrict, overprotective, unwise handling of childhood problems, can predispose the child to a social behavior in later life and the possibility of emotional disturbances, or can invite rebellion on the part of any offspring not properly conditioned to the exigencies of life.

If a child is supplied with a solid, intelligent foundation, if his environment, background and parental training steer him toward unselfish goals, in which he finds happiness through altruistic motives, he will acquire that comparatively rare trait of character, emotional maturity.

Control of the emotions then, as far as the child is concerned, lies principally in the hands of his teachers, parents, and others to whom his care is entrusted. The great point is to guard the child in his plastic, formative days, as far as possible, from any situations which might injure him or move him to anger or fear. This requires intelligence, vigilance, patience, and faith on the part of all the molders of youth.

Child psychiatry: I do not depreciate and derogate the child's inherent ability as much as I formerly did. Whereas formerly I treated 75 per cent to 90 per cent of all children who were sent to me as needing psychiatric treatment, now I treat 25 per cent or less. Children solve problems, and one of their greatest "needs" is to have this fact recognized. I traveled many years and thousands of cases to learn what ought to be a simple truth. I mixed my motives with the child's problems and often treated my motives.—Anderson, F. N.: Some Viewpoints on Child Psychiatry, California Med. 75:216 (Sept.) 1951.

RETROLENTAL FIBROPLASIA IN PIEDMONT NORTH CAROLINA

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CHARLOTTE
and
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Since retrolental fibroplasia in premature infants was first named by Terry in 1942, this entity has come to be recognized as the most common cause of blindness in preschool children. We now know that cases originally included under this diagnosis were caused by several entities. As better care of premature infants increases the survival rate, the number of cases will doubtless increase.

Differential Diagnosis

This disease must be differentiated from the following conditions:

1. Persistent hyperplastic vitreous or persistent tunica vasculosa lentis, which may occur in full-term infants, is usually unilateral and has the maximum density of the membrane in the center, fading out toward the periphery. The posterior lens capsule tends to rupture with the formation of a posterior cortical cataract. A persistent hyaloid artery can usually be seen where visualization of the posterior segment is possible. The involved eye is usually smaller than the other.

2. Retinal dysplasia may be found in full-term infants and is a bilateral condition. The eyes are usually microphthalmic, and the retinal structure is dysplastic. The fibrous tissue formed behind the lens is thought to be persistent primary vitreous, and the secondary vitreous is deficient or lacking altogether. This condition occurs in newborns, and is usually associated with other anomalies, such as those of the brain, heart, vascular system, or skeleton. These infants often die shortly after birth.

3. True retrolental fibroplasia presents typical clinical features. It is found bilaterally in premature infants weighing 3½ pounds or less at birth, and usually develops between the thirtieth and ninetieth days of life, having been reported as early as 21 days.

We divide this condition into two stages: the acute and the cicatricial. The cicatricial stage follows the acute, from the third and fourth months on. The acute phase is characterized by dilatation of the vessels, hemorrhage, transudates, and retinal separation in the temporal periphery of the retina. There follows a fibroblastic proliferation of the end vessels in this area into the vitreous, with formation of the membrane in the retrolental space. The cicatricial stage follows, with organization of this fibroblastic mass in the retrolental space and resultant contracture. This gives rise to a rather massive retinal detachment in the periphery. The anterior chamber is flattened as the result of pressure exerted on the lens and ciliary body by this mass. As this stage progresses, enophthalmos, with a sinking of the septum orbitale, is commonly found.

Etiology

There are many schools of thought as to the etiology of retrolental fibroplasia. Reese[1] formerly thought that it was due to the lack of exposure to the hormones produced by the hyperadrenalism found during the last trimester of pregnancy, caused by the formation of ACTH and adrenal cortical steroids in the placenta. He used this as a rationale for therapy with ACTH. Szewezyk[2] has suggested that it may be due to "the anoxia of prematurity." Heath[3] held that it is a primary retinal disease, present at birth microscopically, which progresses within a few weeks after birth to present the typical clinical findings. Owens and Owens[4] felt that it was due to lack of vitamin E.

Other theories are concerned with the influence of the use of stilbestrol on the mother prior to delivery, and the possible effect of climate on the incidence has been considered also. Reports vary from 0 per cent in New Orleans to 10-12 per cent in the larger Eastern and New England areas.

Report of Cases

At North Carolina Bapist Hospital over a one year period we have examined 101 premature infants at one week intervals. Sixty of these infants weighed 3½ pounds or less. We found 6 active cases in babies weighing 3½ pounds or less. None was found in those weighing more. A definite diagnosis was not reached until there was dilatation of vessels, transudates, and some fibroblastic proliferation of the end vessels.

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Table 1
Active Cases

Case	Baby	Birth Weight	Age at onset	Multiple Pregnancy?
1.	M	2 lb. 14 oz.	24 days	No
2.	W	3 lb. 8 oz.	60 days	Yes
3.	P	2 lb. 1 oz.	62 days	No
4.	WI	2 lb.	42 days	No
5.	D	2 lb. 14 oz.	42 days	No
6.	K	2 lb. 10 oz.	52 days	No

ACTH was given daily (25 mg.) for 14 days in cases 1 and 2. These two cases have shown no progression. No treatment was given in cases 3 and 4. These babies now show large retrolental masses and retinal detachments, with questionable light perception. Babies 4 and 5 were kept in incubators, with 60 per cent oxygen concentration. Case 5 was apparently arrested. In case 6 it is extremely doubtful that there was any effect at all.

Summary and Conclusion

The incidence of retrolental fibroplasia in premature infants weighing less than 3½ pounds has been found to be similar in the Piedmont Carolinas to that of the larger Eastern and New England areas. We feel that all premature infants should be examined at regular intervals for early discovery of retrolental fibroplasia and that some treatment should be instigated, although a definitive therapeutic approach has not yet been found.

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The personal touch. In these days we hear a great deal about the importance of the personal touch in the practice of medicine. The medical educationalist and the medical politician guiding the organized trends in our profession have isolated and are turning the full light of publicity on the usefulness of this factor. When one human being deals with another there are countless small interfaces of contact, many of them undefinable, many unrecognized, which lead the one to trust the other and have confidence in him. When we know more about the physiology of the emotions we may learn why confidence of the patient in his doctor is important, but for the present we can say that to dispel the tensions and apprehensions of the sick man and for the true evaluation of his story and for his successful treatment this element must be present.—Copping, G. A.: Common Pitfalls in Medical Practice, Canad. M.A.J. 66:332 (April) 1952.

EARLY NORTH CAROLINA MEDICINE
ARMY SURGEONS OF THE AMERICAN REVOLUTION

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CHAPEL HILL

(Conclusion)

In addition to the surgeons captured at Charleston, another North Carolina doctor, Solomon Halling, was for a while a prisoner of the British, according to a letter written by General Lincoln to Governor Caswell in 1780, in which he said, "Dr. Halling will do himself the pleasure to deliver you this. He came to Philadelphia as a Surgeon to me (I then needed one), but on my getting better and Genl. Ashe wanting a Surgeon, the Doctor at my request poined him, and was taken prisoner on the 3d of March at Brier Creek, where he lost his baggage. He is informed that your state have made a consideration to those under his circumstances; if so, give me leave to recommend the Doct. to the same indulgences, for he joined General Ashe rather from an expectation of rendering service than from any other view. He discharged his duty while with that corps with attention and judgment."[24]

While there is no record of the medical education of most of the North Carolina army surgeons of this date, at least two of them, Dr. Joseph Blythe and Dr. William MacLean, went to the University of Pennsylvania after their service in the army. Dr. Blythe, referred to in one of Dr. McClure's letters as "an able, active young man," was recommended by the Council of State on July 3, 1779, for appointment as surgeon's mate to the 3rd regiment[25], though he may have been in service either with the militia or with another regiment of the Continental Line earlier than this. He was promoted to surgeon sometime in 1779, and at various times served with several different North Carolina regiments. According to Duncan, Dr. Blythe was taken prisoner at Charleston in May, 1780, and remained a prisoner until he was exchanged in June, 1781[26]. Like many other doctors, he had difficulty in collecting his salary, and in 1784 his account was presented to the state legislature, which decided that his "claims for services performed and medicines actually furnished, to the amount of two hundred and seventy-

*Cataloger, Division of Health Affairs Library, North Carolina Memorial Hospital, University of North Carolina, Chapel Hill.

eight pounds, are sufficiently supported."[27] During this same year, Dr. Blythe was evidently in school, as Lippincott's history of the University of Pennsylvania lists him as one of the graduates of the medical school in 1784, and adds that he is one of the medical men who served well in the war[28].

Dr. William MacLean, who was surgeon's mate of the 1st North Carolina regiment from 1779 to 1781, and who served as a mate till the end of the war, also went to the University of Pennsylvania after his military service was completed. C. L. Hunter, in his *Sketches of Western North Carolina*, states that MacLean went to Queen's Museum, in Charlotte, for two years before the war, and "having made up his mind to become a physician during his collegiate course, he gathered all the medical books he could procure at that period, and diligently devoted his time to their study."[29] In 1779 Dr. Blythe offered him a place as surgeon's mate, and he went with Blythe to James Island, near Charleston. Later, he was at the battle of King's Mountain, after which he was stationed at Charlotte, helping to care for the sick and wounded there. During the next year, he was with Greene's army. After the war, again quoting from Hunter, "Having completed his preparatory studies, Dr. MacLean went to the medical University of Pennsylvania at Philadelphia, and received from that venerable institution his diploma in 1787."[30] Returning to North Carolina to practice, he soon "acquired an enviable reputation for being skilful and assiduous in his profession."[31] He also found time to take part in political life during the formative years of the state, being a member of the state convention of 1787, where he voted for the ratification of the Constitution of the United States, a member of the House of Commons from 1788 to 1791, and a member of the state Senate in 1814. He died in 1828.

Dr. MacLean's journal of a trip from Lincolnton, North Carolina, to Nashville, Tennessee, in 1811, has been preserved, and, edited by Alice B. Keith, was published in the *North Carolina Historical Review* in 1938. In addition to relating other experiences, the journal contains occasional comments on matters concerning health. For example, when describing a night spent at the home of one Mr. Williamson, he wrote that the family had been very sickly during the winter: "The disease is the winter fever or Typhus Meteor of Dr. Cullen—The Physicians are said not to understand it . . . Dr. Crocket of Franklin was thought by Mr. Williamson to have done less harm and perhaps more good by his method of healing the disease than any of the others—so far as I can learn the principle medicine administered by him was Spt. Mendereri. He did not approve of bleeding or blistering much."[32]

In addition to the physicians discussed above, several other North Carolinians served as army surgeons during the American Revolution, but in most cases the available records merely list their names and dates of service. These doctors were often ill trained, and nearly always poorly supplied with medicines and instruments. Doubtless some of them were also indifferent and inefficient, but many, judging by the fragmentary accounts which exist, seem to have rendered a valuable service in spite of their handicaps.

References

24. North Carolina Records, v. 15, p. 328.
25. *Ibid.*, 9, 323.
26. Duncan, L. C.: Medical Men in the American Revolution, U. S. Army Medical Department, Bulletin 25, 1931, p. 384.
27. N. C. State Records, v. 19, p. 286.
28. Lippincott, H. M.: The University of Pennsylvania, Franklin's College, Philadelphia, 1919, p. 210.
29. Hunter, C. L.: Sketches of Western North Carolina, Raleigh, 1877, p. 287.
30. *Ibid.*, 288.
31. Keith, A. B.: William MacLean's Travel Journal from Lincolnton, North Carolina, to Nashville, Tennessee, May-June, 1811. North Carolina Historical Review 15:379, 1938.
32. *Ibid.*, 387.

Violent non-occupational deaths.—I have, for many years, been impressed with the low mortality amongst my diabetics from violent causes in general. It would appear that, since a large proportion of diabetics take insulin and thus are exposed to the possibility of insulin reactions and thus mental confusion, diabetics would be particularly liable to violent deaths as pedestrians on streets and highways, and at work and at play . . . Actually, however, the experiences with diabetics have been very **much better** than those with the general population of non-diabetics. In my own experience, about 2% only of all deaths have been violent deaths, which agrees with the experiences of Dr. E. P. Joslin with a still larger group of diabetics, whereas, in Canada, as a whole, according to the latest available annual reports, of 117,725 deaths, 7,666 were violent deaths (excluding suicide) —an incidence of approximately 6%.—Rabinowitch, J. M.: The Diabetic in Industry, Canad. M.A.J. 67: 36 (July) 1952.

A recent British writer designates tuberculosis as "a disease which has no frontiers." Quarantine cannot be used against it as is possible in foci of plague, cholera or yellow fever. Segregation in sanatoria is our best substitute. But even this has its drawbacks. First there are not enough beds, second discharge against advice is still current, releasing infectious cases again into circulation.—Kendall Emerson, M.D., Conn. State Med. J., May, 1952.

North Carolina Medical Journal

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"The prime object of the medical profession is to render service to humanity; reward or financial gain is a subordinate consideration. Whoever chooses this profession assumes the obligation to conduct himself in accord with its ideals."—Principles of Medical Ethics of the American Medical Association, Chapter 1, Section 1.

APRIL, 1953

"DEATH FROM OVERUSE OF A HEADACHE POWDER"

In a recent issue of the *Winston-Salem Journal* a touching "human interest" story told of the death of a 22 year old mother soon after she was delivered of a stillborn infant—leaving two children and her husband to mourn her death. She had had 140 pints of blood in a losing fight against "a relatively rare type of anemia," which "her physician said . . . came from overuse of a headache powder."

Unfortunately such types of anemia as this young woman had are not so rare as was once the case, and only too often follow the overuse of headache powders. North Carolina has the unenviable reputation of leading in the manufacture and sale of headache remedies, which are sold promiscuously without a doctor's prescription and which are advertised in newspapers, religious periodicals, and over the radio and television as offering safe, sure and swift relief from headaches. Unfortunately the buyer has no means of telling when his bone marrow is sensitive to the coal tar products in such powders, and is led to believe that they are quite harmless.

A headache may mean eyestrain that is easily corrected; it may mean a tension state that needs investigation and perhaps prolonged psychotherapy; it may mean some serious underlying organic disease; it may mean the overuse of the very remedies supposed to bring relief. A headache may mean so many things that the victim should be studied, and not treated symptomatically.

It behooves all physicians to caution their patients against the symptomatic treatment of persistent or recurrent headaches. Years ago, when money was scarcer than it is now, a citizen of Winston-Salem was fond of saying that as long as there was 9 cents profit in a 10-cent drink, liquor would be sold. This expression may now be applied to patent headache medicines: As long as there is 9 cents profit in a 10-cent headache remedy, they will be manufactured, advertised and sold, so long as the law allows it.

* * *

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

With remarkably little opposition, Reorganization Plan No. 1, creating the Department of Health, Education and Welfare, was adopted by both Houses of Congress. Mrs. Oveta Culp Hobby, as secretary of the new department, will be the second woman to become a cabinet member. This department will replace the Federal Security Agency.

The kind treatment given this reorganization plan as proposed by President Eisenhower is in marked contrast to the reception given a somewhat similar plan proposed by President Truman. Some close students of the Washington scene—notably Dr. Marjorie Shearon—fear that the adoption of this plan was a great mistake. On the other hand, the American Medical Association's House of Delegates, in a special session called to consider the matter, voted unanimously to adopt the report of the Board of Trustees supporting the Reorganization Plan, but reaffirming

the A.M.A.'s stand in favor of an independent Department of Health. Dr. Shearon thinks that the American Medical Association was gullible in its action. It is hard to believe, however, that the hard-headed realists in the House of Delegates would have voted for the plan unless they were convinced of the sincerity of the present Administration. It is also hard to believe that President Eisenhower would "betray" the confidence of the doctors in him personally and in his integrity.

There are actually a number of differences between the plan adopted and the one proposed by the Truman Administration. Mr. Truman and Mr. Oscar Ewing were outspoken in favoring a national health insurance scheme similar to that of Great Britain. President Eisenhower and Mrs. Hobby are equally outspoken in their opposition to such a program. In the Truman plan no provision was made for the medical profession to have a competent representative in the new department. The present bill provides for a special assistant to the Secretary who is to be a recognized leader "in the medical field, with wide non-governmental experience." Almost half of the act is given over to outlining the duties of this special assistant.

A full discussion of this matter and a transcript of the proceedings of the special session of the House of Delegates held to consider it will be found in the *Journal of the American Medical Association* for April 4. It and the monthly message of President Lans Boner in the *Journal of the American Medical Association* for March 28 deserve careful reading by medical men all over the country.

* * *

KIRKWOOD'S APHORISMS

Among the most brilliant and most lovable members of the class that graduated from Jefferson Medical College in 1908 was Dr. Robert C. Kirkwood. By one of those quirks of fate, he was forced to give up a career in obstetrics to enter the field of tuberculosis — first as a patient, then as a specialist. By another quirk of fate, he recovered from his tuberculous infection to be forced to retire from practice later by the doctor's special malady, coronary heart disease. A number of his friends have profited by his enforced retirement from active practice, since he has used his fertile mind to produce some of the most interesting letters ever written. Many of these are real literary gems.

The editor of this journal counts it a rare privilege to be one of the recipients of Robert's messages, which are filled with humor, wit and wisdom. In one of these letters he recorded some aphorisms which he had coined over his years of experience — principally while he was chief medical officer at the Tuberculosis Hospital, Fort Bayard, New Mexico, 1918-1919. He was given permission to use these as a sort of guest editorial, which no doubt will appeal to our readers, whether or not they are particularly interested in tuberculosis.

1. "In tuberculosis we prescribe not medicine but a mode of life."

2. "It is better to make good use of a 'bad' climate than 'bad' use of a good climate."

3. "In the care and treatment of the tuberculous, atmosphere is as important as air."

4. "Tuberculin is most helpful to those who need help least."

5. "The tubercle bacillus takes no time off. Therefore the patient cannot wisely do so."

6. So often patients wanted to go home, either to stay or for a holiday. This aphorism was born: "My best considered judgment is of a sterner mould, and demands that the primal business of getting well must suffer no diversion, however pleasant."

7. "For the tuberculous patient worry is more harmful than work. If you insist upon worrying, set aside one of the awake hours of the 24, and do all your worrying during that hour, designating it the worry hour, just as you have rest hour, and do all your worrying during that same hour each day."

8. "Being in bed is not *per se* bed rest. It may be, and too often is, bed exercise."

9. "Chest x-ray often reverses the adage: 'Coming events cast their shadows before them.' With chest x-rays it is 'Past events cast their shadows behind them.' " In other words, "Chest x-rays are often history of current events, and they are rarely, if ever, prophecy."

Committees and Organizations

PHYSICIANS ADVISORY COMMITTEE ON HOSPITAL SAVING ASSOCIATION BLUE SHIELD PLAN

The "Service Benefit" Program of Medical-Surgical Plan

The basic purpose for which Medical-Surgical Plan of New Jersey was developed in 1942—with the approval and guidance of The Medical Society of New Jersey—was to make available, especially to those in the low and moderate income groups, adequate medical service on a prepayment insurance basis for severe and unexpected medical and surgical contingencies. The intent was to help such people obtain service on a self-respecting private basis without resorting to free public services or burdening and disrupting the family budget in order to pay for such services.

This basic purpose remains unchanged to this day.

A considerable majority of the population is rendered medically indigent when confronted by a medical or surgical contingency beyond the most casual type. Yet most people want to protect themselves by voluntary action against the consequences of such medical contingencies by purchasing prepayment insurance.

The Blue Shield Plans, of which Medical-Surgical Plan is one, have responded to this demand. The soundness and success of the Blue Shield program is evidenced by the fact that in 10 years some 25 million people have subscribed to it.

Medical-Surgical Plan of New Jersey, as orginally developed and as revised some four years ago, is designed potentially to provide inclusive "service benefits" to approximately 80 per cent of the population. This purpose has been supported repeatedly by formal action of the State Medical Society as well as by the endorsement of each of the county medical societies. Were it not for the Blue Shield program, there would long ago have been instituted by public demand some form of governmentally operated health insurance program. It is also conceded that it is better for the profession to support a program in which it supervises medical policy than to be forced to participate in a program over which it has no control.

The "service benefit" feature (distinctive to Blue Shield Plans and characteristic of most of them) provides an opportunity for the members of the profession to assure subscribers who are within the medically indigent catagory — insofar as important contingencies are concerned — that they, the physicians, are making a contribution to the solution of this problem by accepting the payment provided by the Plan as their full payment for services covered by the Subscription Contract and rendered to persons within that category.

Physicians sometimes do not understand that were it not for the "service benefit" feature, the Blue Shield program would never have been accepted so readily by so many of the working population, who most need such protection. Were it not for the "service benefit" feature, it is hard to see what justification the profession would have had for entering into the field of medical care insurance. If the profession were going to offer only cash indemnity, then such an effort might well have been left to the commercial insurance industry, over whose policies and programs, of course, the profession has no direct control or influence.

The medical profession in New Jersey has made a great investment and stands to reap enormous dividends through the public good will represented by the present membership of more than 900,000 New Jersey citizens in Medical-Surgical Plan. One out of every five persons in the state—and the number is growing daily—is now in a virtual partnership with the medical profession in this great enterprise, which constitutes a solid bulwark for the preservation of a free medical profession.

Approximately 80 per cent of all New Jersey physicians are presently supporting this effort as "Participating Physicians." Their participation, in reality, is as valuable to them as the Subscription Contract is valuable to the 900,000 subscriber participants. For just as Medical-Surgical Plan helps to stabilize the economy of the subscriber, so also it is helping to enhance and stabilize the economy of the profession itself.

These are a few of the reasons why the Trustees of the Medical-Surgical Plan feel that the Plan merits—as much as it needs—the participation and cooperation of every physician in New Jersey.

Reprinted from THE JOURNAL of the Medical Society of New Jersey, November, 1952.

BULLETIN BOARD

PRELIMINARY PROGRAM
of the
NINETY-NINTH ANNUAL SESSION
The Medical Society
of the
State of North Carolina
May 11, 12, and 13, 1953
PINEHURST, NORTH CAROLINA
Headquarters—Hotel Carolina

RESUME OF PROGRAM

SUNDAY, MAY 10, 1953

9:00 A.M.—Installation of Exhibits—Scientific and Technical
10:00 A.M.—Executive Council Meeting (Small Card Room)
2:00 P.M.—Audio-Visual Postgraduate Instructional Program —Film Showings
8:00 P.M.—Memorial Services
Address: Medication Versus Meditation
Rev. G. N. Ashley, Salemburg Baptist Church, Salemburg
Music: Sandhills Madrigal Society—Choral Selections

MONDAY, MAY 11, 1953

9:00 A.M.—Registration Booth Opens
9:00 A.M.—N. C. Board of Medical Examiners (Small Card Room)
9:00 A.M.—Technical Exhibits Open (West Porches)
10:00 A.M.—
11:30 A.M.—Executive Committee of Medical Auxiliary
12:00 Noon—Fracture Post Graduate Clinic Session (Dutch Room)
1:00 P.M.—Scientific Exhibits Open (East Porches)
2:00 P.M.—House of Delegates, First Meeting (Ballroom)
2:30 P.M.—Audio-Visual Postgraduate Instructional Program —Repeat Film Showing of Sunday
2:30 P.M.—Medical Auxiliary Executive Board Meeting (Dutch Room)
5:30 P.M.—Intermission, House of Delegates Medical Society
5:30 P.M.—Social Hour, Medical College of Virginia
6:00 P.M.—Medical College of Virginia Alumni Association Dinner (Crystal Room)
6:00 P.M.—Scientific and Technical Exhibits Close
8:00 P.M.—House of Delegates Reconvenes (Ballroom)
9:00 P.M.—Medical Auxiliary Bingo Party (Large Card Room)

TUESDAY, MAY 12, 1953

7:30 A.M.—Officers Breakfast (Crystal Room)
8:00 A.M.—Registration Booth Opens (Lobby Foyer)
8:45 A.M.—Exhibits Open (West Porches—East Porches)
9:00 A.M.—Annual Meeting of Medical Auxiliary (Pine Room)
9:30 A.M.—First General Session (Ballroom)
1:00 P.M.—Auxiliary Executive Board Luncheon (Pinehurst Country Club)
1:00 P.M.—Medical Alumni Luncheons (Schedule and places to be announced in the official program)
1:00 P.M.—Medical Skeet Shoot
(Pinehurst Gun Club—North of Village)
(Register at General Registration Desk)
2:30 P.M.—Scientific Section Meetings, Medical Society:
Section on Practice of Medicine and Surgery (Ballroom)
Section on Ophthalmology and Otolaryngology (Large Card Room)
Section on Pediatrics
(The Village Chapel—Down front Walk at left End)
Section on Gynecology and Obstetrics
(Theatre—in the Village)
Section on Public Health and Education
(Pine Room)
Section on Anesthesia (Dutch Room)
3:00 P.M. Medical Auxiliary—Fashion Show (Pinehurst Country Club)
7:00 P.M.—President's Dinner (Main Dining Room)
10:00 P.M.—Entertainment—Floor Show (Ball Room)
11:15 P.M.—President's Ball (Ball Room)
2:00 A.M.—(Finale)

WEDNESDAY, MAY 13, 1953

8:00 A.M.—Registration Booth Opens (Lobby Foyer)
8:00 A.M.—Editorial Board Breakfast
(Special Group—Main Dining Room)
8:45 A.M.—Exhibits Open (West Porches—East Porches)
9:00 A.M.—Auxiliary Executive Board Breakfast (Stag Room)
9:00 A.M.—Second General Session (Ball Room)
10:00 A.M.—Bridge Party Medical Auxiliary
(Large Card Room)
10:55 A.M.—Elections, The Medical Society (Ball Room)
11:25 A.M.—Conjoint Session with State Board of Health of North Carolina (Ball Room)
11:55 A.M.—Reconvening of Second General Session (Ball Room)
1:00 P.M.—Medical Alumni Luncheons
(Schedule and places to be announced in official program)
2:30 P.M.—Scientific Section Meetings, Medical Society:
Section on Practice of Medicine
(Large Card Room)
Section on Surgery (Ball Room)
Section on Neurology and Psychiatry
(Theatre—in the Village)
Section on Radiology (Pine Room)
Section on Pathology
(Village Chapel—Down front walk to end-left)
5:00 P.M.—Third General Session (Ball Room)
Adjournment *Sine Die*

PROGRAM OF THE MEDICAL SOCIETY

SUNDAY, MAY 10, 1953

10:00 A.M.—Executive Council Meeting (Small Card Room)

2:00 P.M.—Audio-Visual Postgraduate Instructional Program (Especially Arranged for those arriving early)

Fracture Clinic—Motion Picture Films

Film Showing

"Diagnosis of Poliomyelitis"—National Foundation for Infantile Paralysis
"Autonomic Nervous System"—Joseph E. Markee, M.D., Duke Hospital, Durham
"Glaucoma—What the General Practitioner Should Know About It" National Society for the Prevention of Blindness
"Rehabilitation in Traumatic Paraplegia"—J. Leonard Goldner, M.D., Duke Hospital, Durham
"The Treatment of Cardiac Standstill" Roscoe Wall, M.D., Section on Anesthesia, Winston-Salem
"Eye Surgery" — Banks Anderson, M.D., Duke Hospital, Durham
"Cancer Problems Observed in Early Diagnosis" — North Carolina State Board of Health, Raleigh
"Plantar Neuroma" — L. K. Loomis, M.D., New Orleans
"Stenosing Teno-Synovitis at the Radial Stybid Process"—L. K. Loomis, M.D., New Orleans

8:00 P.M.—Memorial Service Address: "Medication Versus Meditation"—Rev. G. N. Ashley, Pastor, Salemburg Baptist Church, Salemburg, North Carolina
Music: Sandhills Madrigal Society—Choral Selections

MONDAY, MAY 11, 1953

9:00 A.M.—Registration Booth opens (Front Lobby)

9:00 A.M.—N. C. Board of Medical Examiners (Small Card Room)

9:00 A.M.—Technical Exhibits open (West Porches)

10:00 A.M.-12:00—Fracture Postgraduate Session
Moderator—Walton W. Kitchin, M.D., Clinton
"Discussion and Demonstration of Reduction and Fixation of Colles Fracture" — Julian J. E. Jacobs, M.D., Charlotte

"Discussion of Fractures About the Hand—Reduction and Fixation"—J. Leonard Goldner, M.D., Durham
"Discussion of Fractures About the Ankles—Reduction and Fixation"—Lenox D. Baker, M.D., Durham
"Discussion of Fractures of the Forearm"—Everett I. Bugg, M.D., Durham
"What Specialists Don't Know About Handling Fractures in a General Practice"—Discussion from the Floor—George F. Bond, M.D., Moderator, Bat Cave

1:00 P.M.—Scientific Exhibits open (East Porches)
2:00 P.M.—First Meeting of House of Delegates of Medical Society (Ball Room)
2:30 P.M.—Audio-Visual Postgraduate Instruction Program—Repeat film showing of Sunday (Especially arranged for those arriving early) (Large Card Room)
2:30 P.M.—Medical Auxiliary Executive Board (Dutch Room)
5:30 P.M.—Intermission, House of Delegates Medical Society
5:30 P.M.—Social Hour, Medical College of Virginia Alumni Association (Pine Room)
6:00 P.M.—Medical College of Virginia Alumni Dinner (Crystal Room)
6:00 P.M.—Scientific and Technical Exhibits Close
8:00 P.M.—House of Delegates Reconvenes (Ball Room)
9:00 P.M.—Medical Auxiliary Bingo Party (Large Card Room)

TUESDAY, MAY 12, 1953

OFFICERS' BREAKFAST
(Crystal Room)

7:30 A.M.—(Officers will assemble in Crystal Room)
7:45 A.M.—Breakfast for Officers (Crystal Room) Dr. J. Street Brewer, Presiding
8:20 A.M.—Address: "The Doctor as a Teacher" W. W. Bolton, M.D., Association Director, Bureau of Health Education, American Medical Association, Chicago, Illinois
8:50 A.M.—Announcements
8:55 A.M.—Adjournment

FIRST GENERAL SESSION
TUESDAY, MAY 12
(Ballroom)

9:30 A.M.—Call to Order, Millard D. Hill, M.D., Chairman, Committee on Arrangements
Invocation: Rev. M. C. McQueen, Pastor, First Presbyterian Church, Clinton
Announcements: Recognition of visiting fraternal delegates
Presentation of President J. Street Brewer, M.D.
9:40 A.M.—Report of Committee on Scientific Awards:
Rowland T. Bellows, M.D., Chairman, Charlotte
William S. Dosher, M.D., Wilmington
James F. Reinhardt, M.D., Lincolnton
Ernest W. Furgurson, M.D., Plymouth
10:00 A.M.—Address: "Medicine and Its Problems" Louis H. Bauer, M.D., President, American Medical Association, Hempstead, New York
10:30 A.M.—From Section on General Practice of Medicine and Surgery — C. L. Nance, M.D., Chairman, Charlotte
"Allergy–General Practice"
John S. Painter, M.D., Kent, Ohio
10:50 A.M.—From Section on Ophthalmology and Otolaryngology — Samuel D. McPherson, Jr., M.D., Chairman, Durham
"Diagnosis and Treatment of Oral Moniliasis"
Carl N. Patterson, M.D., McPherson Hospital, Durham
11:10 A.M.—From Section on Pediatrics — Rowena S. Hall, M.D., Chairman, Wilmington
"Present Methods of Therapy of Leukemia in Children"
Ruth Appleton, M.D., Associate Physician, Tumor Therapy Unit of Children's Medical Center, Boston, Mass.
11:30 A.M.—From Section on Public Health and Education — Robert F. Young, M.D., Chairman, Roanoke Rapids
"Public Health and the Private Physician–Obligations and Opportunities"
John R. Bender, M.D., Winston-Salem
11:50 A.M.—From Section on Anesthesia — Roscoe Wall, M.D., Chairman, Winston-Salem
"Anesthesiology in Medical Practice"
Harold Griffith, M.D., F.F.R.C.S., Director of Anesthesia at the Queen Elizabeth Hospital, Montreal, Canada, and Chairman of Anesthesia, McGill University, Montreal, Canada
12:10 P.M.—Announcements
12:15 P.M.—Adjournment

ALUMNI LUNCHEONS
Tuesday, May 12, 1:00 P.M.

North Carolina Medical Alumni, C. L. Nance, M.D., President, Charlotte (Stag Room)
University of Pennsylvania Medical Alumni, V. K. Hart, M.D., President, Charlotte (Crystal Room)
Duke University Medical School Alumni Luncheon, T. L. Peele, M.D., Secretary, Durham — Mid Pines Club 1:00 P.M., Tuesday, May 12. Complete Luncheon Fee $3.00—Notify the Secretary at Box 3811, Duke Hospital, Durham

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SECTION ON GENERAL PRACTICE OF MEDICINE AND SURGERY
(Ball Room)
Tuesday, May 12, 2:30 P.M.
C. L. Nance, M.D., Chairman, Charlotte

"Affections of the Urethra"
John S. Rhodes, M.D., and Tom B. Daniels, M.D., Raleigh
Discussion: Charles Norfleet, Jr., M.D., Winston-Salem
"A New Approach to Planning for Health Care in North Carolina"
Cecil G. Sheps, M.D., Director of Program Planning, Division of Health Affairs, University of North Carolina, Chapel Hill
"Lesions Back and Lower Extremities Which May Simulate a Ruptured Disc"
Leonard Goldner, M.D., Duke University, Durham
"Office Deliveries in General Practice"
Edgar Beddingfield, M.D., Community Clinic, Stantonsburg
"Prevention and Treatment of Vascular Complications of Diabetes Mellitus"
Charles W. Styron, M.D., Raleigh
"Allergy–General Practice"
John S. Painter, M.D., Kent, Ohio
(Before First General Session)

SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

(Large Card Room)

Tuesday, May 12, 2:30 P.M.

Samuel D. McPherson, M.D., Chairman, Durham

"Buried Sutures for Closure of Cataract Incision"
Winston Roberts, M.D., Bowman Gray School of Medicine, Winston-Salem

"Present Status of Irradiation for Nasopharyngeal Disorders"
Newton Fischer, M.D., North Carolina Memorial Hospital, Chapel Hill

"Retrolental Fibroplasia in Piedmont North Carolina"
T. D. Ghent, M.D., Charlotte

"The Management of External Otitis"
Alan Davidson, M.D., New Bern

"Boeck's Sarcoid as it Involves the Eye"
Alfred N. Costner, M.D., Duke University School of Medicine, Durham

"Diagnosis and Treatment of Oral Moniliasis"
Carl N. Patterson, M.D., McPherson Hospital, Durham
(Before First General Session)

SECTION ON PEDIATRICS

(Village Chapel)

Tuesday, May 12, 2:30 P.M.

Rowena S. Hall, M.D., Chairman, Wilmington

"Recent Advances in Treatment of Congenital Hydrocephalus"
Eben Alexander, Jr., M.D., Bowman Gray School of Medicine, Winston-Salem

"Treatment of Nevi"
Frank Masters, M.D., Duke University School of Medicine, Durham

"Diagnosis and Management of Poisoning Due to Organic Phosphate Insecticides"
Harrie R. Chamberlin, M.D., University of North Carolina School of Medicine, Chapel Hill

"Diagnosis of Perthe's Disease"
C. F. Siewers, M.D., Fayetteville

"The Proposed Rheumatic Fever Survey in North Carolina"
E. P. Benbow, Jr., M.D., Greensboro

"Present Methods of Therapy of Leukemia in Children"
Ruth Appleton, M.D., Associate Physician, Tumor Therapy Unit of Children's Medical Center, Boston, Mass.
(Before First General Session)

SECTION ON GYNECOLOGY AND OBSTETRICS

(Theatre)

Tuesday, May 12, 2:30 P.M.

Hugh A. McAllister, M.D., Chairman, Lumberton

"The Pre-marital Examination"
Eleanor Easley, M.D., Durham
Discussant: Ledyard De Camp, M.D., Charlotte

"Ovarian Resection in the Stein-Leventhal Syndrome"
Charles W. Brown, M.D., and W. Z. Bradford, M.D., Charlotte
Discussant: Clarence D. Davis, M.D., Duke Hospital, Durham

Intermission: (15 minutes)

"Diabetes Mellitus and Pregnancy"
Leonard Palombo, M.D., Chapel Hill
Discussant: Joseph Alexander, M.D., Lumberton

"Nutrition in Obstetrics"
Richard L. Burt, M.D., Winston-Salem
Discussant: John C. Burwell, M.D., Greensboro

SECTION ON PUBLIC HEALTH AND EDUCATION

(Pine Room)

Tuesday, May 12, 2:30 P.M.

Robert F. Young, M.D., Chairman, Roanoke Rapids

"Welcome from State Board of Health"
J. W. R. Norton, M.D., North Carolina State Health Officer, Raleigh

"Evaluation of Gamma Globulin as a Passive Agent in the Prevention of Poliomyelitis"
William M. Hammon, M.D., Professor of Epidemiology, University of Pittsburgh, Pittsburgh, Pennsylvania
Discussant: S. S. Chipman, M.D., U.N.C. School of Public Health, Chapel Hill

"The Role of the Private Practitioner and the Public Health Officer in Mental Health Programs"
Paul V. Lemkau, M.D., Chief, Division of Mental Health, Maryland State Department of Public Health, Baltimore, Maryland

"Public Health and the Private Physician–Obligations and Opportunities"
John R. Bender, M.D., Winston-Salem
(Before First General Session)

SECTION ON ANESTHESIA

(Dutch Room)

Tuesday, May 12, 2:30 P.M.

Roscoe L. Wall, M.D., Chairman, Winston-Salem

"The Prevention of Cardiac Arrest During Anesthesia"
Louis Shaffner, M.D., Bowman Gray School of Medicine, Winston-Salem

"How Safe is Spinal Anesthesia in Present Day Practice?"
C. R. Stephen, M.D., Duke University School of Medicine, Durham

"Anesthesia for Surgery on the Heart and Great Vessels"
D. LeRoy Crandell, M.D., Cornell University Medical College; After July 1, 1953, Bowman Gray School of Medicine, Winston-Salem

"The Role of Anesthesia in Improving Surgical Mortality and Morbidity"
Deryl Hart, M.D., Duke University School of Medicine, Durham

"The Mechanics of Reactions to Local Anesthetic Drugs"
David A. Davis, M.D., University of North Carolina School of Medicine, Chapel Hill

"Anesthesiology in Medical Practice"
Harold Griffith, M.D., F.F.R.C.S., Director of Anesthesia at the Queen Elizabeth Hospital, Montreal, Canada, and Chairman of Anesthesia, McGill University, Montreal, Canada
(Before First General Session)

PRESIDENT'S DINNER

(Main Dining Room)

Tuesday, May 12, 1953

7:00 P.M.—Banquet
Toastmaster—Amos N. Johnson, M.D., Garland
Invocation: Rev. K. R. Wheeler, Wallace

7:40 P.M.—Presentation of Guests

7:50 P.M.—Address:
President J. Street Brewer, M.D., Roseboro

8:20 P.M.—Presentation of President's Jewel,
W. P. Starling, M.D., Roseboro

8:30 P.M.—Address: "My Life as a Spy"
Countess Maria Pulaski, Park Ridge, Illinois
(The Countess who served with great distinction as an espionage agent for one of our Allies during the late war will give us some of the highlights of her thrilling adventures which have made her name famous.)

9:10 P.M.—Adjournment

10:00 P.M.—Floor Show Entertainment
(Ball Room)

11:15 P.M.
to
2:00 A.M.—President's Ball

SECOND GENERAL SESSION
(Ballroom)
WEDNESDAY, MAY 13, 1953
John R. Bender, M.D.
Second Vice President, Presiding

9:00 A.M.—Announcements

9:10 A.M.—From Section on Practice of Medicine —Joseph S. Hiatt, M.D., Chairman, McCain
"The Diagnosis and Treatment of Acute Pancreatitis"
Vince Moseley, M.D., Professor of Medicine, Medical College of the State of South Carolina, Charleston, S. C.

9:30 A.M.—From Section on Surgery—Alexander Webb, Jr., M.D., Chairman, Raleigh
"Diagnosis in Carcinoma of the Oral Cavity and Neck"
Henry P. Royster, M.D., University of Pennsylvania Hospital, Philadelphia, Pa.

9:50 A.M.—From Section on Neurology and Psychiatry — Richard L. Masland, M.D., Chairman, Winston-Salem
"Taking a Closer Look at the Alcoholic"
Lorant Forizs, M.D., Clinical Director, State Hospital, Butner

10:10 A.M.—From Section on Radiology—J. Donald McRae, M.D., Chairman, Fayetteville
"The Treatment of Hemangiomata in Children and Pyogenic Granuloma"
Fred M. Hodges, M.D., Department of Radiology, Medical College of Virginia, Richmond, Va.

10:30 A.M.—Address: "The Clinical and Physiological Aspects of Emphysema; Diagnosis and Treatment"
Burgess Gordon, M.D., Woman's Medical College of Pennsylvania, Philadelphia, Pa.

10:55 A.M.—Elections

11:10 A.M.—Presentation of High School Essayist: "Why the Private Practice of Medicine Furnishes this Country with the Finest Medical Care," Thomas Ramon Bello, Reidsville High School

11:25 A.M.—Conjoint Session with North Carolina State Board of Health

CONJOINT SESSION
Wednesday, May 13, 1953—11:25 A.M.

G. Grady Dixon, M.D., President of North Carolina State Board of Health, will preside over this meeting of the Medical Society of the State of North Carolina and the State Board of Health.

11:55 A.M.—Reconvening of Second General Session
Award of Golf Prizes and Exhibit Prizes

12:15 P.M.—Adjournment

ALUMNI LUNCHEONS
Wednesday, May 13, 1953

Jefferson Medical College Alumni Luncheon, 1:00 P.M.—W. Howard Wilson, M.D., Secretary, Raleigh (Crystal Room)

University of Virginia Medical Alumni Association, F. L. Knight, M.D., Chairman, Sanford
(Stag Room)

SECOND MEETING OF HOUSE OF DELEGATES
(Small Card Room)
Wednesday, May 13, 2:30 P.M.

SECTION ON PRACTICE OF MEDICINE
(Large Card Room)
Wednesday, May 13, 2:30 P.M.
Joseph S. Hiatt, Jr., M.D., Chairman, McCain

"The Prevention of Recurrences of Rheumatic Fever"
Ernest Craige, M.D., Chapel Hill

"Therapeutic Dermatitis"
George W. James, M.D., Winston-Salem

"The Indications for Cardiac Catherization and Angiocardiography"
James V. Warren, M.D., Durham

"The Challenge of Intravascular Clotting"
C. Glenn Sawyer, M.D., and Franklin M. Roberts, M.D., Winston-Salem

"The Diagnosis and Treatment of Acute Pancreatitis"
Vince Moseley, M.D., Professor of Medicine, Medical College of the State of South Carolina, Charleston, S. C.
(Before Second General Session)

SECTION ON SURGERY
(Ball Room)
Wednesday, May 13, 2:30 P.M.
Alexander Webb, Jr., M.D., Chairman, Raleigh

"Breast Carcinoma: An Appraisal of Therapeutic Measures"
C. Hal Ingram, M.D., High Point

"Traumatic Injuries of the Heart"
T. C. Bost, M.D., Charlotte

"The Surgical Management of Spontaneous Pneumothorax"
Richard T. Myers, M.D., Winston-Salem

"Unusual Urological Cases of Interest to the General Surgeon"
G. Aubrey Hawes, M.D., Charlotte

"Phlebothrombosis, Its Incidence and Treatment"
R. M. Taliaferro, M.D., Greensboro

"Diagnosis in Carcinoma of the Oral Cavity and Neck"
Henry P. Royster, M.D., University of Pennsylvania Hospital, Philadelphia, Pa.
(Before Second General Session)

"The Management of Traumatic Wounds of the Upper Abdomen"
F. M. Simmons Patterson, M.D., New Bern

SECTION ON NEUROLOGY AND PSYCHIATRY

(Theatre)

Wednesday, May 13, 2:30 P.M.

Richard L. Masland, M.D., Chairman, Winston-Salem

"Cerebral Arteriosclerosis and Senility"
W. P. Wilson, M.D., and James F. Schieve, M.D.

"Carbon Dioxide Therapy in Cerebral Vascular Disease"
Leslie B. Hohman, M.D., and W. E. Wilkinson, M.D., Durham

"An Appraisal of Methods of 'Improving' Cerebral Blood Flow"
John B. Pfeiffer, Jr., M.D., Durham

"The Diagnosis and Management of Those Cases Having Sudden Hemiplegia"
Everett O. Jeffreys, M.D., Winston-Salem

"The Clinical Signs of Alzheimer's and Picks Disease"
Mark A. Griffin, Jr., M.D., and William Griffin, M.D., Asheville

"Abdominal Manifestations of Minor Cerebral Vascular Lesions"
Frederick Taylor, M.D., High Point

"The Relationship of Small Angiomatous Malformations to Spontaneous Cerebral Hemorrhage"
George Margolis, M.D., Durham

"The Use of Medically Induced Surgical Hypotension in the Treatment of Intracranial Aneurysms"
Barnes Woodhall, M.D., Durham

"The Use of Concentrated Serum Albumin in the Management of Increased Intracranial Pressure"
Courtland Davis, M.D., and Eben Alexander, M.D., Winston-Salem

"Taking a Closer Look at the Alcoholic"
Lorant Forizs, M.D., Clinical Director, State Hospital, Butner
(Before Second General Session)

SECTION ON RADIOLOGY

(Pine Room)

Wednesday, May 13, 2:30 P.M.

J. Donald MacRae, M.D., Chairman, Fayetteville

"Enlargement Radiology Without Special Apparatus Other than a Very Fine Focal Spot Tube"
Ernest H. Wood, M.D., Professor of Radiology, Medical School, University of North Carolina, Chapel Hill, and Charles A. Bream, M.D., Chapel Hill

"Experience with Blastomycosis"
Thomas C. Worth, M.D., Raleigh

"Radical Radiotherapy in Breast Cancer"
F. R. Gilmore, M.D., Durham

"Hormones and Anticancer Drugs as Adjuncts in Radiation Cancer Therapy"
J. Robert Andrews, M.D., Professor of Radiology, Bowman Gray School of Medicine, Winston-Salem

"The Treatment of Hemangiomata in Children and Pyogenic Granuloma"
Fred M. Hodges, M.D., Richmond, Virginia Department of Radiology, Medical College of Virginia
(Before Second General Session)

SECTION ON PATHOLOGY

(Village Chapel)

Wednesday, May 13, 2:30 P.M.

Wiley D. Forbes, M.D., Chairman, Durham

"Symposium on Myocarditis"

1. Salivary Gland Viral Carditis
   William M. Berton, M.D., Duke University Medical School, Durham
2. Myocardial Abscess—Case Report
   Thomas Wilson, M.D., Rex Hospital, Raleigh
3. Idiopathic (Non-Specific, Fiedler's) Myocarditis
   Thomas N. Lide, M.D., Bowman Gray School of Medicine, Winston-Salem
4. Tuberculous Myocarditis
   Bernard Fetter, M.D., Duke University Medical School, Durham
5. Sarcoidosis of the Myocardium
   Leon W. Powell, Jr., M.D., Duke University Medical School, Durham
6. Myocarditis of Trichinosis
   Joshua L. Edwards, M.D., Duke University Medical School, Durham
7. Fibrous Myocarditis
   Oscar Duque, M.D., Duke University School of Medicine, Durham
8. Myocardial Changes in Dermatomyositis
   Joseph Mendeloff, M.D., Pathologist, Veterans Hospital, Fayetteville

THIRD GENERAL SESSION

(Ball Room)

Wednesday, May 13, 1953

5:00 P.M.—Report of the House of Delegates
5:15 P.M.—Unfinished Business
5:20 P.M.—New Business
5:30 P.M.—Installation of President, President-Elect, Vice-Presidents
5:40 P.M.—Remarks by President and President-Elect
5:50 P.M.—Adjournment **sine die**

NEWS NOTES FROM THE DUKE UNIVERSITY SCHOOL OF MEDICINE

Dr. William G. Anlyan, associate in surgery at Duke University Medical School, has become the fifth member of the Duke medical staff to receive a $30,000 grant from the John and Mary R. Markle Foundation of New York.

Dr. Anlyan, co-director of the Cancer Control Program at Duke Medical School, is one of a handful of surgeons throughout the United States and Canada honored with five-year grants as scholars in medicine. The grant will be paid, $6,000 annually for five years, to Duke University, which will administer the funds.

Former Duke recipients of Markle awards are Dr. Ivan W. Brown, Jr., Dr. Samuel P. Martin, Dr. George W. Schwert, Jr., and Dr. William deMaria.

Rated the best intern on surgery at Duke Hospital in 1949, his first year at Duke, Dr. Anlyan "received unanimous and enthusiastic support from the heads of all 11 departments in the Medical School," Dean W. C. Davison said.

* * *

A newly organized Orthopedic Club held its first annual meeting at Duke Hospital, April 9-11. All members are qualified orthopedic surgeons trained in the Duke Hospital-Warm Springs, Georgia, training program sponsored by the National Foundation for Infantile Paralysis.

Dr. Lenox D. Baker, of Duke, is coordinator of the organization, in which surgeons are trained at Duke, Warm Springs, Gastonia, Charlotte, or Greenville, South Carolina.

Presented at the meeting were some 25 scientific papers, 14 of them by visiting members. The opening scientific session at 9 a.m. Friday was a program of guest speakers from Duke Hospital and Duke Medical School.

Visiting members who presented papers were Walter Hoyt, Akron, Ohio; Don Eyler, Nashville, Tennessee; George Miller, Gastonia; Bill Davison, Port Huron, Michigan; Bruce Brewer, Milwaukee, Wisconsin; John Campbell, Bay City Michigan; John Feltner, Rochester, New York; Ned Shutkin, Yale

University; Tom Yocum, U.S. Navy; Sam Stubbins, Cleveland, Ohio; Darius Flinchum and Jack Houghston, Columbus, Georgia; Herbert Block, U.S. Air Force; and Cabel Young, Winston-Salem.

* * *

The Virginia Obstetrics and Gynecological Society were guests at Duke Hospital and Duke University Medical School for a three-day scientific meeting, recently.

Some 30 members of the Virginia medical group attended operative clinics, pathologic demonstrations and a series of lectures by members of the Duke Obstetrics and Gynecology Department, host of the meeting.

Dr. Bayard Carter, chairman of the department and president-elect of the American Academy of Obstetrics and Gynecology, is an honorary member of the Virginia Society.

News Notes from the University of North Carolina School of Medicine

The North Carolina Memorial Hospital activated a special inpatient psychiatric unit on March 30, 1953, capable of handling all types of psychiatric and psychosomatic disorders with the exception of violently disturbed patients. This unit, located in the main hospital building, will be available until completion of the psychiatric wing presently under construction. With this added service, the North Carolina Memorial Hospital is now able to accept patients in every medical specialty with the exception of premature infants.

The Pediatric floor was opened during January for the care of all pediatric patients except premature infants. The special premature nursery, which will eventually become an additional premature center for North Carolina, has not yet been activated owing to the shortage of specially trained personnel.

The Obstetrical and Gynecological Service moved into its permanent quarters during February and is prepared to handle all problems in these fields.

The activation schedule of the Hospital calls for continuous expansion of all services over the next 12 months. Admission of inpatients may be arranged by making contact with the resident of the clinical service concerned or the member of the staff to whom the patient is being referred.

The facilities of the outpatient department for both public and private ambulatory patients have been expanded. For the patients eligible for the former the recently organized "General Clinic," in which referred diagnostic or special therapeutic problems are handled by a group of clinicians representing the various specialties at one time, has proved most satisfactory. Attention is called to the desirability of making advance appointments in order to accomplish the most for the patient on the initial visit and to get reports back to the referring physician as soon as possible.

The weekly schedule of the staff patient (public) clinics follows:

New patients should register for morning clinics at 8:30 a.m. and for afternoon clinics at 12:30 p.m.

(Each paragraph contains the following information in the order given: Staff Clinics, Day and Hours, and Staff.)

Admissions*—M, T, W, Th, F—8:30 a.m.-5:00 p.m. Sat.—8:30 a.m.-12 noon.—Medical Assistant Resident. Coverage of other hours by house staff in Emergency Room.

General** (Medicine and Surgery)—M, T, W, Th, F—1:30-4:30 p.m. Sat.—8:30-11:30 a.m.—Dr. W. L. Fleming and staff.

Pediatric—M, T, W, Th, F, S—8:30-11:30 a.m. (Well babies—each Wednesday). — Dr. Edward C. Curnen and staff.

Obstetric-Gynecology—M, W, F—8:30-11:30 a.m. (New patients on Wednesday)—Dr. R. A. Ross and staff.

Urology—T, Th — 8:30-11:30 a.m. — Dr. Paul L. Bunce and staff.

Ophthalmology — W — 1:30-4:30 p.m.—Dr. S. D. McPherson, Jr., and staff.

Orthopedic—M, T, Th, F—1:30-4:30 p.m.—Dr. R. Beverly Raney and staff.

Otolaryngology—M, T, Th, F—1:30-4:30 p.m.—Dr. Newton D. Fischer and staff.

*For screening patients for OPD and hospital; for minor medical and surgical problems; for patients without appointments.

**Small morning component for urgent cases and consultation to other clinics.

* * *

Postgraduate medical courses sponsored by the University School of Medicine and the Extension Division have been arranged at Shelby and Salisbury, with the county medical societies as co-sponsors. The programs are as follows:

Shelby

April 29:
4:00 P.M.—Problems of the Libido Encountered in General Practice
7:30 P.M.—The Hirsute Female — Problems in Diagnosis and Management
Dr. Robert B. Greenblatt, Medical College of Georgia

May 6:
4:00 P.M.—Office Dermatology
7:30 P.M.—Management of Skin Diseases
Dr. Herman Beerman, University of Pennsylvania Graduate School of Medicine

May 13:
No meeting. Week of State Medical Society meeting.

May 20:
4:00 P.M.—Changing Concepts in Pediatric Surgery
7:30 P.M.—Surgical Emergencies in the Newborn Infant Period
Dr. C. Everett Koop, University of Pennsylvania Graduate School of Medicine

May 27:
4:00 P.M.—The Diagnosis and Management of Diabetes Mellitus
7:30 P.M.—The Prevention and Treatment of Chronic Pyelonephritis
Dr. Arnold S. Relman, Boston University School of Medicine

Salisbury

April 30:
4:00 P.M.—Problems of the Libido Encountered in General Practice
7:30 P.M.—The Hirsute Female — Problems in Diagnosis and Management
Dr. Robert B. Greenblatt, Medical College of Georgia

May 7:
4:00 P.M.—Office Dermatology
7:30 P.M.—Management of Skin Diseases
Dr. Herman Beerman, University of Pennsylvania Graduate School of Medicine

May 14:
No meeting. Week of State Medical Society meeting.

May 21:
4:00 P.M.—Changing Concepts in Pediatric Surgery
7:30 P.M.—Surgical Emergencies in the Newborn Infant Period
Dr. C. Everett Koop, University of Pennsylvania Graduate School of Medicine

May 28:
4:00 P.M.—The Diagnosis and Management of Diabetes Mellitus
7:30 P.M.—The Prevention and Treatment of Chronic Pyelonethritis
Dr. Arnold S. Relman, Boston University School of Medicine

* * *

Mr. George Cox of the sophomore medical class has been appointed a Predoctoral Research Fellow by the Life Insurance Medical Research Fund. This fellowship, $2,300, will support Mr. Cox's activities during the 1953-1954 school year; he will spend the year doing research in vascular disease with Dr. Bruce Taylor of the Pathology Department.

* * *

The National Foundation for Infantile Paralysis has awarded a medical student fellowship in the Biological and Physical Sciences to Mr. Hugh C. Hemmings, a member of the junior class, for a research project to be carried out with Dr. Edward C. Curnen, professor of pediatrics, during the summer months.

* * *

Dr. George D. Penick, instructor in pathology, has been selected as a Markle Scholar in Medical Science for 1953. The total award from the John and Mary R. Markle Foundation to the University to assist in furthering Dr. Penick's education and research is $30,000, to be granted in annual installments of $6,000. The Markle Foundation is awarding 21 such scholarships in the United States and Canada this year.

* * *

Dr. Nathan A. Womack, professor of surgery, participated as secretary of the American Surgical Association in the 1953 meeting of the Association held in Los Angeles April 1-3. Dr. Womack was on the program at the March meeting of the Southeastern Surgical Congress in Louisville and discussed "The Significance of Benign Lesions of the Breast."

North Carolina Surgical Association

The spring meeting of the North Carolina Surgical Association was held at Duke Hospital on March 14, with Dr. C. E. Gardner presiding.

Following the welcome by Dr. Deryl Hart, professor of surgery at Duke, the following papers were presented by Duke staff members: "An Operation for Rectal Incontinence"—Dr. Kenneth Pickrell, Division of Plastic Surgery; "Thrombo-embolism"—Dr. William Shingleton, Department of Surgery; "Gastric Surgery for Ulcer and Related Problems"—Dr. Keith S. Grimson, Department of Surgery; "Acute Injuries of the Hand"—Dr. Leonard Goldner, Division of Orthopedic Surgery; "Endometriosis"—Dr. Bayard Carter, Department of Obstetrics and Gynecology; "Use and Abuse of ACTH and Cortisone in Practice"—Dr. Theodore Schwartz, Department of Medicine; "Serious Complications of Blood Transfusion Therapy"—Dr. Ivan Brown, Department of Surgery; "Regional Anesthesia and Anesthetic Agents"—Dr. C. R. Stephen and Dr. William Nowill, Division of Anesthesia.

General Practice Symposium

The fourth annual General Practice Symposium sponsored by the Rowan-Davie County Chapter of the American Academy of General Practice was held in Salisbury on Wednesday, April 15. The following program was presented:

"Melena and Hematemesis of the Upper Intestinal Tract"—Charles W. Hock, M.D., Assistant Professor of Medicine, in charge of gastroenterology, Medical College of Georgia, Augusta, Georgia.

"Intestinal Parasites in Children, Recognition and Evaluation" — Ernest Carroll Faust, The William Vincent Professor of Tropical Diseases and Hygiene, and Head of the Division of Parasitology, The Tulane University of Louisiana, New Orleans, Louisiana.

"X-Ray Diagnosis of the Acute Abdomen" — Thomas G. Thurston, M.D.; John E. Wear, M.D., Radiologists, Rowan Memorial Hospital, Salisbury, North Carolina.

"Bleeding from the Lower Gastrointestinal Tract"—Charles W. Hock, M.D., Assistant Professor of Medicine, in charge of Gastroenterology, Medical College of Georgia, Augusta, Georgia.

"Special Problems in the Management of Peptic Ulcer"—from a color film with sound, a presentation of the Department of Gastroenterology, The Lahey Clinic, written and directed by Everett D. Kiefer, M.D.

"Present Day Treatment of Intestinal Helminthiases"—Dr. Faust.

"Diseases of the Biliary Tract"—Nathan A. Womack, M.D., Professor of Surgery, University of North Carolina Medical School.

The program also included a presentation of clinical material from Rowan Memorial Hospital and a clinicopathologic conference.

Nalle Foundation

Two lectures—a pediatrics lecture and the fourth Brodie C. Nalle lecture—were presented in Charlotte on April 17 by the Nalle Clinic Foundation.

At 5 p.m. Dr. Edward C. Curnen, professor of pediatrics at the University of North Carolina School of Medicine, formerly of Yale University, gave a lecture entitled "Viral Infections of Man: Recent Advances in Diagnosis and Control."

At 8:00 p.m. Dr. John Parks, professor of obstetrics and gynecology at the George Washington University School of Medicine, Washington, D. C., lectured on "Gynecology in General Practice." This lecture was sponsored by the Brodie C. Nalle Fund of the Nalle Clinic Foundation and was the fourth lecture to be sponsored by the Fund.

North Carolina Chapter, American Physical Therapy Association

The annual spring meeting of the North Carolina Chapter of the American Physical Therapy Association was held at Bowman Gray School of Medicine in Winston-Salem on April 25. Mr. Joseph Grassi, clinical psychologist at Graylyn, neuropsychiatric division of the Bowman Gray School, spoke on "Psychological Evaluation of the Handicapped," followed by discussions on "The Differential Diagnosis and Treatment of Cervicobrachial Pain" by Dr. Frank Forsyth, orthopedist; and "Rehabilitation of the Paraplegic" by Dr. Courtland Davis, neurosurgeon, also of Bowman Gray. Following a dinner at the Robert E. Lee Hotel, Dr. Cabel Young, orthopedic surgeon, showed films of an African hunting trip.

Miss Celeste Hayden of Henderson is president of the chapter.

Hospital Recreation Institute

An Institute in Hospital Recreation will be held at the University of North Carolina at Chapel Hill, May 21, 22, and 23. Sponsoring organizations are the North Carolina Recreation Commission, the Hospital Division of the American Recreation Society, the Hospital Division of the North Carolina Recreation Society, the National Recreation Association, and the Bureau of Recreation—University Extension Division.

National authorities in the field form the faculty for the institute. Others from state and local agencies will assist. The program will include such topics as "The General Application of the Philosophy of Recreation in Hospitals," "The Meaning and Sig-

nificance of Illness," "The Effect of Illness on the Individual," "Hospital Administration Looks at Recreation," and "How Recreation Needs Can be Met in Hospitals."

For further information write to the chairman, Harold D. Meyer, Box 1139, Chapel Hill, North Carolina.

North Carolina Heart Association

The American Heart Association's annual meeting and scientific sessions were held in Atlantic City, April 8-12, 1953. The scientific sessions, which have become one of the nation's outstanding medical events, began with a special session devoted to electrocardiography and vectocardiography on Thursday night, April 9.

Six regular scientific sessions were held from April 10 through April 12. The program included two papers—"The Physiology of Cardiac Output" by Dr. William F. Hamilton, professor of physiology, Medical College of Georgia, Atlanta; and "Some Chemical Factors in the Pathogenesis of Atherosclerosis" by Dr. David P. Barr, professor of medicine, Cornell University Medical School, New York—and panels on the following subjects: "Prevention of Rheumatic Fever"; "Interruption of Sympathetic Pathways by Surgery and Medical Means"; "Surgery for Congenital Heart Defects"; and "Anticoagulant Therapy."

The North Carolina Heart Association, an affiliate of the American Heart Association, participated in this annual meeting. Physicians from North Carolina who attended are Dr. Edward Orgain, Durham; Dr. John Smith, Rocky Mount; Dr. Sidney LeBauer, Greensboro; Dr. Edward Benbow, Greensboro; Dr. Edwin Rasberry, Wilson; and Dr. Fred Thompson, Lenoir.

North Carolina Board of Medical Examiners

The North Carolina Board of Medical Examiners has scheduled the following meetings:

Carolina Hotel, Pinehurst, North Carolina, Monday, May 11, 1953, 9 a.m.—to interview applicants for licensure by endorsement.

Sir Walter Hotel, Raleigh, North Carolina, June 22-25, 1953 — written examination for medical licensure. June 23, 1953, 10 a.m.—to interview applicants for licensure by endorsement.

Edgecombe-Nash Medical Society

The regular monthly meeting of the Edgecombe-Nash Medical Society was held in Rocky Mount on March 11. Dr. Robert Whitley, in charge of the scientific program, introduced as speaker Dr. Wayne Rundles of the Department of Medicine, Duke University School of Medicine, whose subject was drawn from his specialty of hematology.

News Notes

Charlotte Memorial Hospital, Charlotte, has announced the inauguration of two residencies in orthopedic surgery supported by the Miller Orthopaedic Clinic of Charlotte and Gastonia. These residencies are designed to include all essential basic training required for certification in this specialty, and will include the teaching of adult and children's orthopedic surgery and fractures in hospitals caring for both private and charity patients. The courses will also be tendered in cooperation with the teaching program of any medical school which desires to become affiliated.

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Dr. W. Howard Wilson of Raleigh has announced the association of Dr. Newton G. Pritchett, whose practice will be limited to internal medicine.

* * *

Dr. Joseph S. Hiatt, Jr., has announced the opening of offices in Southern Pines for the practice of internal medicine and diseases of the chest.

West Virginia Academy of General Practice

The first annual scientific assembly sponsored by the West Virginia Academy of General Practice will be held at the Daniel Boone Hotel in Charleston, West Virginia, Saturday and Sunday, May 16 and 17. Twelve out-of state medical guest speakers, each distinguished in his special field, will participate in the program. Write directly to the Reservation Manager, the Daniel Boone Hotel, Charleston, West Virginia, for reservations.

Pittsburg Medical School Symposium

The University of Pittsburgh School of Medicine, Department of Surgery, Section on Anesthesiology, has announced a postgraduate symposium on the Basic Sciences Related to Anesthesiology to be given June 8-12. The course will be given in cooperation with the Departments of Anesthesiology of the St. Francis, Allegheny General, and Mercy Medical Center Hospitals.

The registration fee is $25. The course will be limited to 50 participants.

American Society of X-Ray Technicians

The First International Convention of X-Ray Technicians will be held at Royal York Hotel, Toronto, Canada, June 28 through July 2. The convention is sponsored jointly by the Canadian Society of Radiological Technicians and the American Society of X-Ray Technicians. Attendance is not limited to the membership of the sponsoring organizations.

Markle Foundation

Twenty-one doctors, all faculty members of medical schools in the United States and Canada, have been appointed as the sixth group of Scholars in Medical Science by the John and Mary R. Markle Foundation. Toward the support of these doctors and their research, the Foundation has appropriated $630,000, to be granted at the rate of $6,000 annually for five years to the 21 medical schools where they will teach and carry on medical research. In announcing these new appointments John M. Russell, executive director of the fund, said that a total of over $3,200,000 has been appropriated toward the support of 111 doctors in 55 medical schools since the Scholar program began in 1948.

The purpose of the program is to help relieve the shortage of medical school teachers and investigators by offering both academic security and financial aid to faculty members at the start of their careers in academic medicine. The present group of 21 Scholars was selected from 54 candidates nominated for the grants by deans of medical schools. Four regional committees of laymen aided in the selection.

The Foundation was established in 1927 by John Markle, Pennsylvania coal operator, with an initial endowment of $3,000,000, which increased under the terms of his will to approximately $16,000,000. The Scholar program is now the major interest of the fund, which formerly made grants for social welfare and medical research.

Among the 21 Scholars whose appointments begin in 1953, their present positions and fields of scientific interest, and the medical schools that will receive the $30,000 grants for their support are: Dr. William G. Anlyan, Associate in Surgery, Duke University School of Medicine; and Dr. George D. Penick, instructor in pathology, University of North Carolina School of Medicine.

News Notes from the American Medical Association

A.M.A. Meeting to be Aired on Radio and TV

Physicians who cannot attend the A.M.A.'s one hundred second annual convention can see and hear highlights of the meeting via radio and television.

The presidential inaugural ceremony will be broadcast coast to coast on Wednesday, June 3. Although the inauguration of President-Elect Edward J. McCormick will be held Tuesday, the coronation of Queen Elizabeth II of England on the same day—which will be widely covered by radio and television—has made it necessary to re-broadcast the proceedings on Wednesday evening.

In television areas, the half-hour "March of Medicine" program, originating at the Scientific Exhibit in New York's Grand Central Palace, will be presented either Thursday or Friday evening. This television coverage will be sponsored by Smith, Kline and French, Philadelphia pharmaceutical firm.

Further information on these two programs will be available in the near future.

* * *

European M.D. Contributes to A.M.E.F.

A European-educated physician now residing in Madera, California, believes that physicians should support American medical schools. Although he owes no allegiance to any school in this country, Dr. Thomas Klein sent in a donation to the American Medical Education Foundation. His action sets an example for graduates of American medical colleges. In less than three months of this year, the Foundation has received in excess of $657,000 from more than 7,000 contributors towards its 1953 goal of two million dollars.

* * *

Factbook on Medical Education

Current statistics on medical education in the United States have been compiled in a convenient pocket-sized booklet for handy reference to be distributed early in April by the American Medical Association. Information contained in the "Factbook on Medical Education" is based on a report made by the Council on Medical Education and Hospitals during the academic year 1951-52. Written in an easy question-and-answer style, the new booklet gives information on enrollments, financial support, faculty and new medical schools. The booklet will be distributed to state and county medical society officers, A.M.A. delegates and officers, newspaper and magazine writers, and allied health organizations. Additional copies will be available for distribution by state and county medical societies.

* * *

Former Medical Officers Surveyed

In analyzing 467 questionnaires returned by former armed forces medical officers, the Council on National Emergency Medical Service has extracted pertinent data on percentage of time spent in treatment of military personnel and their dependents, staffing conditions and the number of physicians willing to remain in service.

The survey of former army, navy and air force physicians shows:

(1) **Percentage of time:** Between 44 and 54 per cent of total overseas time was spent in treatment of military personnel and between 39 and 53 per cent of total domestic time. Treatment of dependents took between 19 and 28 per cent of overseas time and between 25 and 44 per cent of domestic time.

(2) **Staffing conditions:** Overstaffing — 136 replies—ranged from 15 to 44 per cent. Understaffing—79 replies—ranged from 15 to 28 per cent. Adequate—227 replies—ranged from 42 to 58 per cent.

(3) **Willing to stay in service:** 214 replied yes; 236 no. The Council will continue to send out questionnaires to physicians as they return to civilian life.

National Foundation for Infantile Paralysis

Recently, the National Foundation for Infantile Paralysis completed negotiations for the purchase of the present inventory of certain processors of commercial gamma globulin as well as the future production by these same producers. In agreement with the American National Red Cross all gamma globulin processed from Red Cross donated blood, as well as the commercially produced gamma globulin purchased by the National Foundation, has been placed under control of the Office of Defense Mobilization. The National Foundation does not have in its possession or control any supply of the blood fraction.

It has been agreed by all parties concerned that gamma globulin will be available for measles prophylaxis and for use by physicians in the treatment of infectious hepatitis, irrespective of the resulting limitation of gamma globulin available for use in poliomyelitis epidemics.

The Office of Defense Mobilization will allocate the available gamma globulin through state and territorial health officers for use in measles and infectious hepatitis, and will make additional distribution for the purpose of controlling poliomyelitis.

Physicians who are unable to purchase gamma globulin through their regular drug supply channels are advised to request supplies from their local or state health departments. There will be no charge for this gamma globulin, since the Red Cross has already paid for the processing and packaging of the material, and the National Foundation for Infantile Paralysis, through its arrangement with the commercial processors, has purchased the commercial supply at the same rate as that currently supplied defense agencies under governmental contract.

The National Foundation does not have gamma globulin available for distribution, nor will it determine how available supplies shall be used. That is the function of the Office of Defense Mobilization.

Since it has been obvious for some year and a half that gamma globulin would be in short supply, the above plan was agreed upon by all interested agencies, governmental, private and public, to avoid wasteful use of gamma globulin.

World Medical Association

New uses in medicine for atomic particles, hormones, and blood fractions; advances in surgery of the heart, lungs and pancreas, and new applications of psychiatry in the family doctor's day-by-day practice were among the topics explored at the First Western Hemisphere Conference of the World Medical Association at Richmond, Virginia, April 24. Dr. Louis H. Bauer, president of the American Medical Association and secretary-general, World Medical Association, moderated at a dinner meeting and summarized the outstanding conclusions of the panel discussions.

Medical schools with which participants are affiliated include Johns Hopkins, Harvard, New York University, Northwestern, Chicago, Wayne University, North Carolina, Baylor, Emory, Minnesota, Stanford, the University of California at Los Angeles, and various Latin American institutions.

Among the specialists taking part in the panels was Dr. Kenneth M. Brinkhous of Chapel Hill.

Each of the participating physicians is contributing a chapter to a commemorative volume on "Seventy-five Years of Medical Progress." Dr. Bauer said the book, to be issued by the World Medical Association, "will form a valuable record of every field of medical practice during a most important period of human history, when major gains have been made in the conquest of disease and the lengthening of life." Costs of publication are included in a grant by A. H. Robins Company, Inc., Richmond pharmaceutical house, which covers the costs of holding the conference.

Department of the Army

First Lieutenant Fae M. Adams, MC, of San Jose, Calif., was sworn in recently as the first woman physician to be commissioned in the U.S. Regular Army at ceremonies attended by Maj. Gen. George E. Armstrong, Army Surgeon General and representatives of the Army's women service groups.

One of the Army's 20 women Reserve medical officers now on active duty around the world, Lieutenant Adams has been stationed at Camp Crowder, Missouri, since July 6, 1952, her first Medical Corps assignment. She is the first woman medical officer integrated into the Regular Army under legislation by the Eighty-Second Congress permitting women doctors to become Regular Army careerists. On July 1 next, Lieutenant Adams will report to the Walter Reed Army Hospital in Washington, D. C., to begin residency training, the first woman to be given such training at an Army hospital. This educational privilege is extended only to Regular Army medical officers.

Veterans Administration

Nearly 44,000 post-Korea veterans are drawing compensation for disabilities incurred or aggravated by service since June 27, 1950, Veterans Administration has announced.

In addition to the 43,953 veterans on the compensation rolls as of February 28, 1953, VA had awarded compensation to 33,310 widows, children, or dependent parents on behalf of 17,551 veterans whose deaths were due to service since June 27, 1950.

VA is also making 10,502 monthly payments to beneficiaries of veterans whose death was due to service since June 27, 1950. These payments are being made under the Servicemen's Indemnity Act of 1951.

Nearly 5,000 of these indemnity payments were for less than $10,000 because the veterans were partially covered by either National Service Life Insurance or United States Government Life Insurance.

* * *

Veterans Administration announces the appointment of Dr. Albert M. Snell, Palo Alto, California, as chairman of its Council of Chief Consultants, and of Dr. Harold G. Scheie, ophthalmologist of Philadelphia, Pennsylvania, as vice chairman.

The appointments will become effective on July 1, 1953, for a three-year period.

* * *

Dr. Martin M. Cummings, noted researcher in the field of tuberculosis, has been appointed as chief of the research division in the Veterans Administration Department of Medicine and Surgery effective immediately.

Federal Security Agency

Public Health Service

The Public Health Service's Division of Venereal Disease has a new chief and a new assistant chief as a result of appointments made recently by Surgeon General Leonard A. Scheele.

Dr. James K. Shafer of Washington, D. C., who has served as assistant chief since 1950 was elevated to the post of chief, and Dr. Clarence A. Smith of Chicago, Illinois, was named assistant chief.

* * *

National Institute of Mental Health

Publication of the **Proceedings of the Second Research Conference on Psychosurgery** has been announced by the National Institute of Mental Health, Public Health Service, Federal Security Agency.

The Second Research Conference met in June, 1950, under the chairmanship of Dr. Fred Mettler, Columbia University, to discuss "Evaluation of Change in Patients After Psychosurgery." Edited by Dr. Winfred Overholser and published by the National Institute of Mental Health, the **Proceedings** include design of rating scales for psychotic patients; base line data and psychiatric categories; evaluating the environmental situation of the mentally ill patient; analysis of schizophrenia; affectivity and psychosurgery; deterioration and regression; creativity in psychosurgery patients; and descriptive scales for rating currently discernible psychopathology.

The research conference group was established upon recommendation made by the National Advisory Mental Health Council and has been supported by grants from the National Institute of Mental Health. Three annual conferences have been held to exchange information and develop plans for research in lobotomy. The First Conference, held in New York in 1949, discussed "Criteria for Selection of Psychotic Patients for Psychosurgery."* The final conference, which met in 1951, considered "Therapeutic Evaluations of Psychosurgery" and summarized the findings of the three conferences.**

Single copies of the **Proceedings of the Second Research Conference** (PHS Publication No. 156) are available free to professional personnel by addressing the National Institute of Mental Health, Bethesda 14, Maryland.

***Proceedings of the First Research Conference on Psychosurgery.** PHS Publication No. 16, edited by Dr. Newton Bigelow. (173 pages), $1.00 per copy.

****Proceedings** in press.

Classified Advertisements

Surgeon completing residency April 1st is available local tenums April 15th to May 15th, or shorter period. Those interested apply Headquarters Office, 203 Capital Club Building, Raleigh, N. C.

LOCATION WANTED: Well trained and experienced eye, ear, nose and throat man desires to make location in North Carolina. Would prefer to take over location of someone wishing to retire or enter some group. ADDRESS ANSWER to: NORTH CAROLINA MEDICAL JOURNAL.

AUXILIARY

THIRTIETH ANNUAL MEETING
OF THE
AUXILIARY TO THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA

PROGRAM

Sunday, May 10, 1953

8:00 P.M.—Memorial Service for departed Medical and Auxiliary members (Ball Room) Mrs. H. Stuart Willis, Chairman, Auxiliary Memorial Committee

Monday, May 11, 1953

9:00 A.M. - 1:00 P.M. — Golf Tournament — Pinehurst Country Club — **Doctors' Wives Only** — Prizes for First and Second High; and Low Scores
10:30 A.M.—Finance—Dutch Room
11:30 A.M.—Executive Committee—Dutch Room
2:30 P.M.—Executive Board Meeting—Dutch Room
9:00 P.M.—Bingo Party—Large Card Room—One dollar for the evening—Valuable prizes—Any money left after expenses will be given to Sanitoria Bed Fund. MEN WELCOME! Mrs. George Heinitsh, Chairman.

Tuesday, May 12, 1953

9:00 A.M.—Annual Meeting of Medical Auxiliary (Open). County Presidents and Committee Chairmen are urged to be present.
10:45 A.M.—Intermission—Coca-Colas will be served. Mrs. A. A. Vanore, Chairman.
11:00 A.M.—Annual Meeting reconvenes
12:00 Noon—Installation of Officers
12:15 P.M.—Adjournment
1:00 P.M.—Executive Board Luncheon—Pinehurst Country Club — Honoring Mrs. Ralph Eusden, Long Beach, California, President of Woman's Auxiliary to the American Medical Association, and Mrs. R. F. Stover, Miami, Florida, President of The Woman's Auxiliary to the Southern Medical Association—Mrs. B. Watson Roberts, Chairman, Mrs. H. Mudgett, Co-Chairman
3:00 P.M.—Fashion Show and Tea — Pinehurst Country Club—Fashions by Mary Rice Shop, Hamlet. Tickets may be purchased at the Country Club on admission—price fifty cents. Refreshments compliments of Medical Society of the State of North Carolina. Buses will leave Carolina Hotel at 2:30 P.M. Mrs. R. M. McMillan, Chairman
7:00 P.M.—President's Dinner — Carolina Hotel Dining Room
10:00 P.M.—President's Ball — Ball Room (Entertainment–Floor Show)

Wednesday, May 13, 1953

9:00 A.M.—Breakfast—Stag Room—Medical Auxiliary Executive Board Members and County Presidents—Mrs. G. M. Billings, President, presiding
10:00 A.M.—Bridge Party — Large Card Room — Prizes for First, Second, and Third High Scores; and Consolation Prize. Mrs. Fred Langner, Chairman

BOOK REVIEWS

Endocrine Treatment in General Practice. Edited by Max A. Goldzieher, M.D., and Joseph W. Goldzieher, M.D. 474 pages. Price, $8.00. New York: Springer Publishing Company, Inc. 1953.

This book approaches the problem of endocrinology from a new and fresh viewpoint which is a very helpful one. The editors—a father and son combination—and the 21 contributors have systematized the approach to endocrine treatment by organizing the book into five sections: (1) "Disorders Related to Age," (2) "Disorders of Metabolism and Nutrition," (3) "Disorders of Organ Systems," (4) "Disorders of Resistance," and (5) "Hormone Preparations Currently Available." This plan makes the book suitable for quick reference on any aspect of endocrine treatment. It carries out very well the promise made in the introduction: "It is intended to give the reader information of the type he might wish to obtain from a consultant at the bedside. In this actual situation the problem consists of differential diagnosis based on the history and presenting symptoms of the patient, and the most practicable approach to therapy."

In such a book it is inevitable that some errors will make their way. For example, on page 24 the statement is made that "the size of internal organs such as heart, liver, and kidneys decreases in the aged." Most cardiologists would differ with applying this principle to the heart, at least. This minor criticism, however, is not intended to detract from the value of the book, which can be recommended to any general practitioner as a desirable reference book for help in solving problems in endocrine treatment.

Current Therapy 1953. Edited by Howard F. Conn, M.D. Consulting Editors: M. Edward Davis, M.D.; Vincent J. Derbes, M.D.; Garfield G. Duncan, M.D.; Hugh J. Jewett, M.D.; William J. Kerr, M.D.; Perrin H. Long, M.D.; H. Houston Merritt, M.D.; Paul A. O'Leary, M.D.; Walter L. Palmer, M.D., Ph.D.; Hobart A. Reimann, M.D.; Cyrus C. Sturgis, M.D.; Robert H. Williams, M.D. 835 pages. Price, $11.00. Philadelphia and London: W. B. Saunders Company, March, 1953.

The yearly volume on **Current Therapy** has achieved such widespread distribution and acceptance that a lengthy review is not necessary to familiarize the medical profession with its content. As in the past, a large group of competent contributors have set down their methods of treating each disease, regardless of whether it is a new advance or a long recognized and proven procedure. In certain instances where a difference of opinion exists, more than one method of therapy is presented. The present volume contains methods by 209 contributors and necessarily much of the information is essentially unchanged from previous publications.

The layout of the book is such that information is easily found and is clearly but concisely stated. Diagnosis is not discussed and there are no references included.

This volume should be most helpful to practitioners who do not possess a previous edition.

In Memoriam

WALTER WILKINS, M.D.

News has been received in North Carolina of the death in Jacksonville, Florida, of Dr. Walter Wilkins who, for several years, was associated with the North Carolina State Health Department as Co-Director of the School Health Coordinating Service. Funeral services were held at the Mars Hill Baptist Church, of which he formerly was a member.

Dr. Wilkins was born in Columbia, South Carolina, July 9, 1903. He received his A.B. degree from Furman University and attended four summer sessions at the University of North Carolina. He received the degrees of M.D. and Ph.D. at Vanderbilt Medical School, at Nashville, Tennessee.

Upon coming to the North Carolina State Health Department, Dr. Wilkins was associated with the late Dr. John Fox Kendrick, who later set up the Nutrition Division, leaving the School Health work entirely in Dr. Wilkins' hands. During his tenure in that capacity, Dr. Wilkins gave special attention to the subject of nutrition. With the assistance of Miss French Boyd, he stimulated an interest in nutrition in schools throughout the state and was instrumental in holding a number of institutes for teachers training in the nutritional field, and for special studies in screening defective pupils. Dr. Wilkins left the North Carolina State Health Department during World War II to become associated with the United States Public Health Service, in a uniformed capacity. When the war was over, he became associated with the Florida State Health Department in Jacksonville, later going into private practice in that city, where his death occurred.

RICHARD MORRISON KING, M.D.

Dr. Richard Morrison King was born April 3, 1880, in Concord, North Carolina.

He was graduated with a B.S. degree from Davidson College in 1900. He was graduated from Jefferson Medical College in 1903 and afterward served an internship of two and one-half years at the Protestant Episcopal Hospital in Philadelphia. He opened offices in Concord, March 27, 1906 for the general practice of medicine. He was married June 4, 1913 to Miss Miriam Dumbille of Suffolk, Virginia, and from this marriage there were three children: one son, Major Richard Morrison King, Jr., stationed at Camp Breckenridge, Kentucky; two daughters, Mrs. Henry R. Terry of Nantuckett, Massachusetts; and Miss Elizabeth Norfleet King, an instructor at Wellesly College, Massachusetts. Also surviving are four granddaughters and one grandson; two sisters, Miss Mary King and Miss Nora King of Concord and one brother, Dr. Parks M. King of Charlotte. Dr. King always maintained an active interest in civic affairs and other matters concerning the betterment of his community.

He was chief of staff when the Cabarrus Hospital was first opened in 1937 and served as chief of staff for two years. He remained on the staff of the Cabarrus Hospital until his death. On January 9, Dr. King suffered a cerebral hemorrhage and was sent to the Cabarrus Hospital, where he remained until his death on January 24, 1953.

* * *

Whereas, the Cabarrus County Medical Society has suffered a severe loss in the death of Dr. R. M. King, January 24, 1953.

Therefore, **be it resolved** by the members of the Cabarrus County Medical Society; that the accompanying biography, as well as this resolution expressing deep regret at the loss of their colleague and extending sincere sympathy to the family of the deceased, be made a part of the minutes of the said society as a testimonial of the honor and esteem which the members of the society have of the memory of Dr. R. M. King.

H. W. Barrier, M.D.
R. H. Morris, M.D.

WILLIS JASPER VESTAL, SR., M.D.

Dr. Willis Jasper Vestal, Sr., oldest practicing physician in North Carolina succumbed on December 7, 1952, as a result of a heart attack. Although he had been in apparently good health for over 92 years, he was unable to rally from this sudden attack. Surviving Dr. Vestal are his wife, Mrs. Mary Shemwell Vestal, one son, and four daughters. The elder son, Willis, Jr., died several years ago.

On September 26, 1952, Dr. Vestal celebrated his ninety second birthday. Prior to that event he had passed his sixty eighth anniversary of the beginning of his medical career as a general practitioner of medicine. All of this time was spent in Davidson County and the past 51 years in Lexington, North Carolina.

Fellow physicians looked upon him as a champion practicing physician from the standpoint of age and continuous practice. Dr. Vestal always felt that he should never retire. His upstairs office was visited frequently by fellow citizens for social chats as well as for medical advice and treatment.

A native of Yadkin County, son of Jacob and Delila Holcomb Vestal, the honored doctor graduated from the College of Physicians and Surgeons, Baltimore, Maryland, in 1883. He practiced for a number of years in the rural village of Tyro, near Lexington. In 1901 he moved to Lexington, where he practiced during the remainder of his life.

Dr. Vestal received numerous honors from his colleagues. He was a past president of the Davidson County Medical Society and a past chief of staff of Lexington Hospital, and was an honorary member of the North Carolina State Medical Society. A testimonial dinner was given by Davidson County Medical Society in 1933 in honor of his completion of 50 years of practice; likewise the same group gave a similar dinner 10 years later celebrating his sixtieth year of medical practice.

His sincerity and courtliness made Dr. Vestal a favorite with thousands of Davidson County residents. Many people have been heard to say, "Dr. Vestal is the only doctor whom I have never heard anyone criticize." He was the oldest member of the First Methodist Church, and he continued active in its service throughout his residence in Lexington.

Our Society has lost a valuable member who was truly a "gentleman and scholar of the old school."

Respectfully submitted,
John M. Andrew, M.D.
Chairman of Obituary Committee
Davidson County Medical Society

The road to survival leads to wise adjustment between populations and available resources. Science and technology have charted that road. Mother Earth is rich enough to nourish every man in freedom. Ours is an age of potential abundance, as well as of inescapable interdependence.—Kirtley F. Mather: The Problem of Antiscientific Trends Today, Science 115:535 (May 16) 1952.

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Operating Room in Hospital	10.00	20.00	30.00	40.00
Anesthetic in Hospital	10.00	20.00	30.00	40.00
X-Ray in Hospital	10.00	20.00	30.00	40.00
Medicines in Hospital	10.00	20.00	30.00	40.00
Ambulance to or from Hospital	10.00	20.00	30.00	40.00
COSTS (Quarterly)				
Adult	2.50	5.00	7.50	10.00
Child to age 19	1.50	3.00	4.50	6.00
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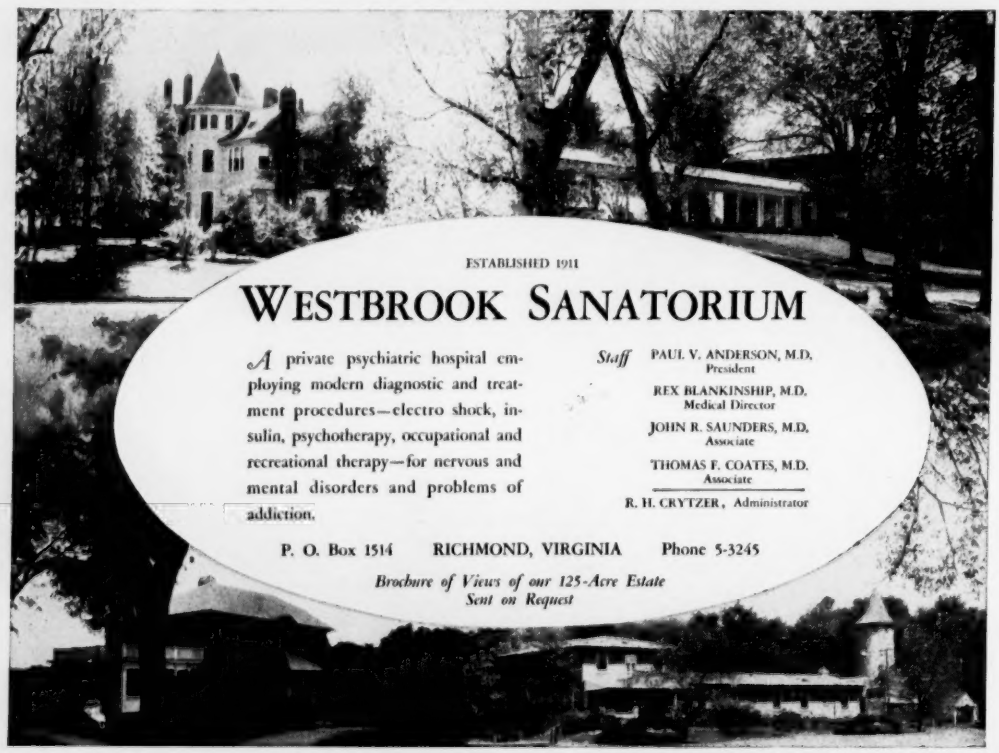
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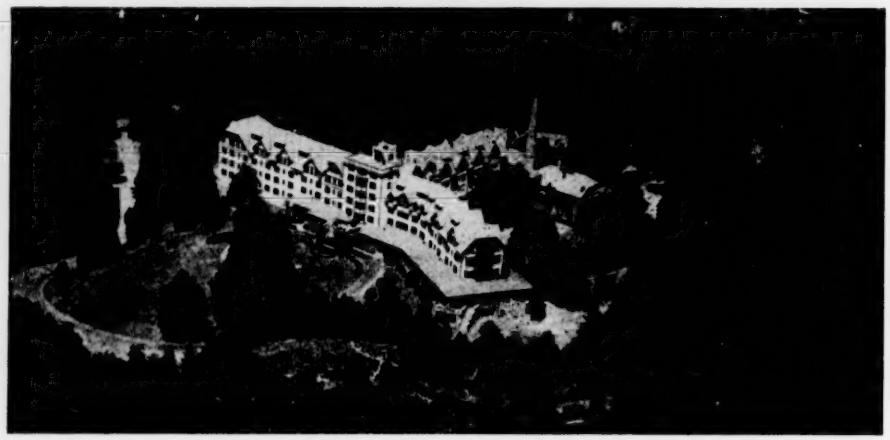

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M/Sgt. Hubert L. Lee, USA Medal of Honor

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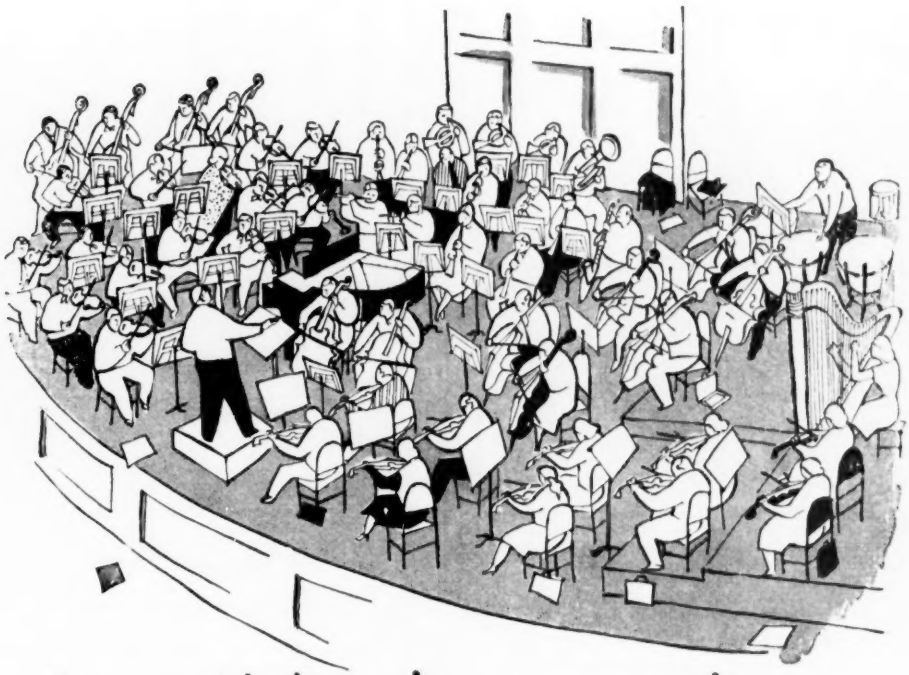

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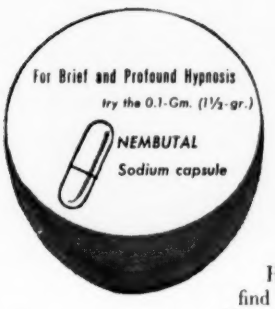

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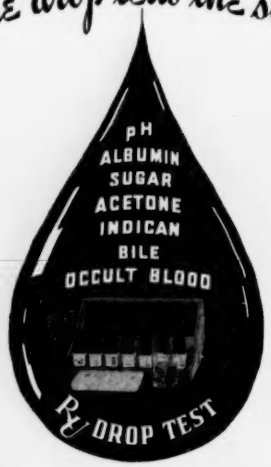

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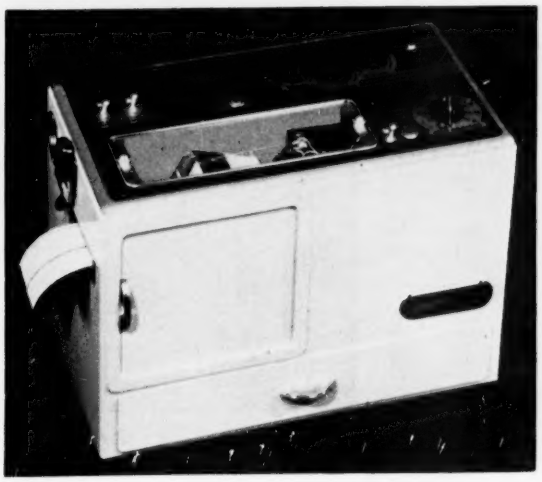

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1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.

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